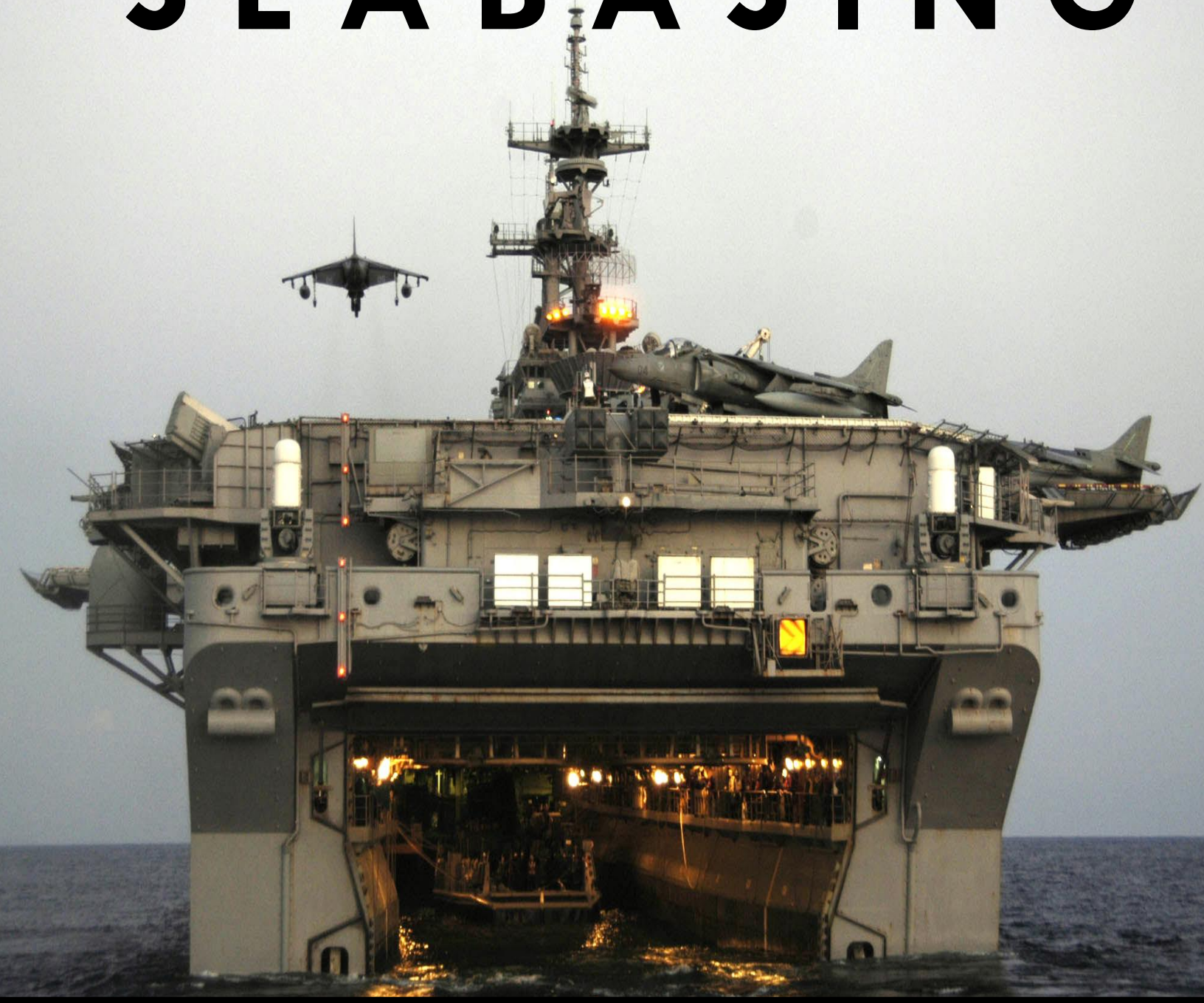
ANNUAL REPORT FOR PROGRAM OBJECTIVE MEMORANDUM 2017

SEABASING



UNITED STATES MARINE CORPS

Combat Development & Integration

Message from the Deputy Commandant for Combat Development & Integration

Seabasing, a national capability integrated with Joint and Coalition Forces and inter-agency partners, enables naval forces to fully exploit the sea's maneuver space and generate global force power projection. Seabasing capabilities provide a naval expeditionary framework within which operational commanders can capitalize on seabasing's inherent flexibility in executing a wide array of options to extend seapower ashore across the range of military operations. Seabasing provides the means to generate Marine Corps forward presence and facilitates rapid response to emerging crises without the need to establish bases ashore. An effective Navy and Marine Corps Seabasing capabilities development process delivers the right force in the right place at the right time.

The Seabasing Annual Report for POM 2017 provides an update to the key warfighting capabilities and programs required for the Navy-Marine Corps team to maintain our unmatched amphibious and expeditionary expertise. In the past year we published our capstone concept, Expeditionary Force 21. It provides the vision and direction the Marine Corps will pursue over the next ten years. It provides guidance for how the Marine Corps -- as an integral part of the larger naval and joint force -- will be postured, organized, trained and equipped.

In the past twelve months the Navy has joined two new amphibious warfare ships to the battle force inventory. As well, the integration of the Mobile Landing Platform (MLP) into the Maritime Prepositioning Force (MPF) has begun, and construction of the Landing Craft Air Cushion (LCAC) replacement via the Ship-to-Shore Connector (SSC) program is to begin this year. This is tremendous progress across multiple fronts, and we will continue to work with our Navy counterparts to further advance our naval expeditionary warfighting capabilities.

Together, we will pursue the best possible solutions to enhance our littoral maneuver capabilities to meet the growing demand for amphibious warfare ships and expeditionary forces well into the 21st Century. Toward that end, this Annual Report presents our seabasing capability objectives for Program Objective Memorandum 2017.

K.J. Glueck, Jr.
DEPUTY COMMANDANT
COMBAT DEVELOPMENT & INTEGRATION

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INTRODUCTION.

The Seabasing Annual Report for Program Objective Memorandum 2017 (POM FY17) is published to provide Navy and Marine Corps capability developers, program managers, operational planners and warfighters an update of key programs managed and monitored by Seabasing Integration Division, Combat Development and Integration, Headquarters, United States Marine Corps. The Annual Report also provides recommendations for materiel solutions that will enhance the ability of an afloat Marine Air Ground Task Force (MAGTF) to effectively operate in the seabase and to extend naval power ashore through the conduct of naval expeditionary operations.

OUR WORLD.

There will be challenges and opportunities in congested and diverse areas where the sea and land merge -- the littorals. The ability to operate simultaneously and seamlessly on the seas, ashore, in the air, in space, and in cyberspace while operating across the range of military operations is a keystone of the Navy/Marine Corps team. Naval Expeditionary Forces, a combination of MAGTFs and Navy Ships, enable us to move seamlessly through these domains providing a uniquely capable, and persistent forward presence critical to respond to crises in a dynamic threat environment.

Most maritime activities -- commercial shipping, fishing, and oil and gas extraction, for example -- take place within 200 miles of the shore. Additionally, more than 80 percent of the world's population currently resides within 100 miles of a coastline -- and that proportion is increasing.

- 70 percent of the world is covered by ocean waters.
- 80 percent of the world's population is within 100 miles of the coast.
- 90 percent of all nation-to-nation trade moves by the sea.
- 95 percent of all internet traffic travels under the sea.

In many cases, threats to our interests may require expanding the concept of littoral maneuver to hundreds of miles inland to resolve crises. As such, geography and demographics point towards a future security environment with a significant littoral dimension.

Seabasing capabilities are being introduced at a critical time, as political and military barriers to access international shores are growing worldwide. In a world of hidden and more diversified enemies, seabased military power promotes security for the United States and its friends and allies.

EXPEDITIONARY FORCE 21.

Postured as the conceptual bridge from the present to the future, Expeditionary Force 21 preserves and expounds on the tenants of amphibious and expeditionary operations. Its objective is to ensure a forward and ready force postured for immediate crisis response and defines the ability to composite forward forces with other complementary forces to provide additional capability as needed to satisfy Geographic Combatant Commander (GCC) requirements.

This capstone concept is underpinned by a modern seabasing capability centered on an integrated naval force with interagency supporters and international allies. Collaborative and creative efforts with joint, multinational, and interagency partners will enhance capacity and enable the seabased Navy/Marine Corps team to produce the right capability in the right place at the right time.

Expeditionary Force 21 does not change what Marines do, but how they will do it.

AMPHIBIOUS & EXPEDITIONARY.

The Marine Corps operates on and from the sea, in and from the air, and on the land. It is structured to operate across any domain. The Marine Corps is optimized to be expeditionary -- a strategically mobile force that is light enough to get to any crisis quickly and able to accomplish the mission or provide time and options prior to the arrival of additional forces.

To Marines, being expeditionary influences every aspect of how we organize, train, and equip the Marine Corps. It is more than the ability to deploy overseas when needed. It is an institutional imperative that acknowledges the necessity to deploy rapidly, arrive quickly, begin operating immediately, endure indefinitely, and win decisively.

This expeditionary ethos is the most critical contributor to the Corps' success in crisis response and complex contingencies. This ethos has been deliberately cultivated and exploited by Marine leaders for generations. It is this mind-set that drives our capability development efforts and ultimately generates both combat power and the organizational flexibility to accomplish diverse missions across the range of military operations (ROMO). Our amphibious heritage and expeditionary culture can be accurately summarized as fast, austere, and lethal.

As the Nation's Expeditionary Force in Readiness, the Marine Corps primary contributions to the U.S. defense portfolio are "the ability to respond to crisis" and "assure littoral access." Given this emphasis, our focus ranges from security cooperation to amphibious forcible entry with a special emphasis on crisis response. Fulfilling this role requires a forward posture with the right mix of capabilities to deploy, employ and sustain our forces in austere environments.

Expeditionary Force 21 is designed to focus the Marine Corps on meeting the nation's crisis response needs by having readily deployable, employable, and sustainable power projection forces tailored to meet the GCC's operational needs, ranging from steady-state activities to forcible entry. Fully realizing these attributes foretells important implications for Marine Corps planning and prioritization.

HOW MANY SHIPS?

The Marine Corps must be ready when our nation is least ready. We are a maritime nation, and we view ships as a critical component of our deployment and employment strategy. The combatant commander demand for amphibious warfare ships far exceeds available inventory. Our inventory demand is based on the requirement to support the assault echelons of two Marine Expeditionary Brigades (MEB) and our obligation to provide Marine Expeditionary Units (MEU) and Special Purpose Marine Air-Ground Task Forces (SPMAGTF) for enduring forward presence and capable crisis response.

MEBs can deploy by amphibious warfare ships, and those ships also provide an operational platform from which the MEBs can be employed. They are capable of going into harm's way and serve as a cornerstone of America's ability to project expeditionary forces and respond to a wide range of crises. The Chief of Naval Operations and the Commandant of the Marine Corps have determined the force structure to support the deployment and employment of two MEBs simultaneously is 38 amphibious warfare ships. Understanding this requirement in light of fiscal constraints faced by the nation, the Department of the Navy has agreed to sustain a minimum 33 amphibious warfare ships. The 33 ship force accepts risk in the arrival of combat support and combat service support elements of the MEB but has been adjudged to be adequate in meeting the needs of the naval force within today's fiscal limitations.

A second method of deployment is our Maritime Prepositioning Force (MPF) which combines the speed of strategic airlift with the high embarkations capacity and endurance of strategic sealift. We have two Maritime Prepositioning Ship Squadrons (MPSRONs), each designed to facilitate the deployment of one MEB. Essential combat equipment and supplies are loaded on each MPSRON to initiate and sustain MEB operations for up to 30 days. With the introduction of the seabasing enabling module (LMSR, MLP, T-AKE) each MPRSON will have enhanced capability to Close, Assemble, Employ, Sustain, and Reconstitute (CAESR) forces from the seabase.

The MEU provides a forward deployed and flexible seabased force capable of conducting theater security cooperation, amphibious operations, crisis response, and limited contingency operations to include enabling the introduction of follow-on forces and designated special operations.

The SPMAGTF is a tailored, forward deployed, self-mobile, self-sustaining force. Ideally the SPMAGTF operates from the seabase to leverage the benefit of sovereign and mobile U.S. territory. The SPMAGTF is specifically trained to conduct security cooperation activities with partner nations to develop interoperability, facilitate access, build defense and security relationships, gain regional understanding, and position for immediate response to episodic crises.

A critical enabler for any seabased force is connectors. They transport personnel, equipment and supplies in the amphibious area of operations and enable maneuver. We have modernized our aerial connectors with the MV-22 and the CH-53K. The operational reach afforded by these two aerial connectors has revolutionized our ability to operate from the sea. The Navy is in the process of modernizing the surface connector fleet by replacing the Landing Craft Utility (LCU) and the Landing Craft Air Cushion (LCAC).

Frankly, we need about 50 amphibious gray hulls to get done what we need to around the world today.

-Admiral Jonathan Greenert, Chief of Naval Operations

SEABASING. Seabasing is defined as the deployment, assembly, command, projection, sustainment, reconstitution and reemployment of joint power from the sea without reliance on land bases within the operational area. Seabasing incorporates the traditional naval missions of sea control, assuring access, and power projection with an increased emphasis on maneuver from the sea.

More specifically, seabasing expands access, reduces or eliminates the need to build up logistics assets ashore, reduces the operational demand for strategic sealift and airlift capabilities, and permits forward positioning of joint forces for immediate employment. All of these seabasing characteristics support national global strategic objectives and provide needed operational flexibility in an uncertain world. Through seabasing we can establish expeditionary bases at sea in support of GCC requirements.

The overall intent of seabasing is to make use of the flexibility and protection inherent in maneuver at sea while minimizing our presence ashore.

Seabasing Principles. Seven overarching principles are essential to seabasing operations.

Principle 1	Use the sea as maneuver space.
Principle 2	Leverage forward presence and joint interdependence.
Principle 3	Protect joint/coalition force operations.
Principle 4	Provide scalable, responsive, joint power projection.
Principle 5	Sustain joint force operations from the sea.
Principle 6	Expand access options and reduce dependence on land bases.
Principle 7	Create uncertainty for adversaries.

Lines of Operation: Close, Assemble, Employ, Sustain & Reconstitute (CAESR). The seabase supports five overlapping lines of operation: Force Closure, Arrival and Assembly, Employment, Sustainment and Reconstitution. These lines of operation define the directional orientation of the force in time and space in relation to the enemy. They connect the force with its base of operations and its objectives.

Close. The closure of joint force capabilities to the area of crisis.

Assemble. The integration of scalable joint force capabilities within the seabase.

Employ. The employment of joint force capabilities from and supported by the seabase.

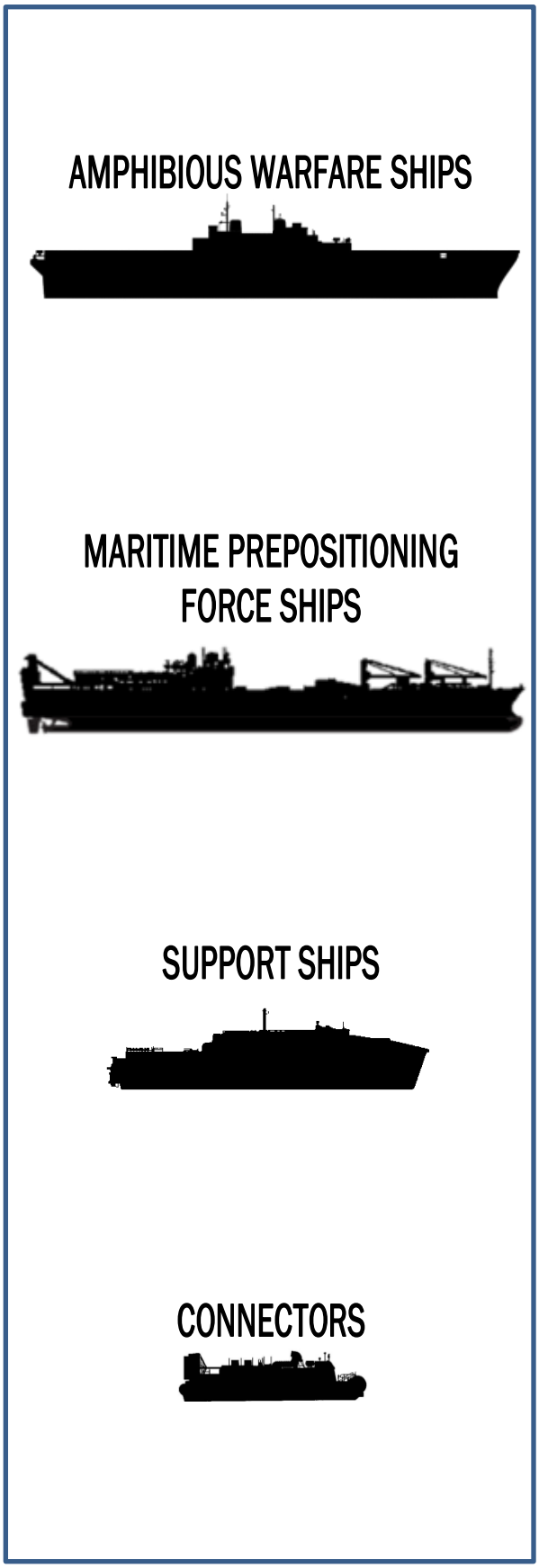
Sustain. The sustainment of selected joint forces afloat and ashore across the ROMO.

Reconstitute. The capability to recover, restore and redeploy joint combat capabilities within the maneuverable seabase for subsequent operations.

Evolution of the Seabase. Traditionally, Marines conducted seabased operations only from amphibious warfare ships. Maritime Prepositioning Ships (MPS) and Maritime Prepositioning Equipment and Supplies (MPE/S) were employed once they were assembled with fly-in echelon forces at major port and airfield complexes ashore. Long perceived as a "break glass in time of war" capability, our maritime preposition forces are increasingly capable of conducting seabased operations across the range of military operations – from theater security cooperation to major combat operations ashore. We continue to work with our Joint and Navy partners to address the interoperability challenges associated with seabased operations and to take ever-greater advantage of the opportunities inherent in Seabasing.

MPF (seabasing-enabling) will provide a limited employment option in low-spectrum operations while retaining high-end deployment capability, thereby allowing our forces to be scalable across the full range of military operations.

- General Joseph F Dunford
36th Commandant of the Marine Corps



AMPHIBIOUS WARFARE SHIPS

Amphibious warfare ships are the centerpiece of the Navy-Marine Corps presence, forcible entry, and seabasing capabilities and continue to play critically essential roles in global operations. These ships are equipped with aviation and surface assault capabilities that, when coupled with their inherent survivability and self-defense systems, support a broad range of mission requirements.

The United States maintains the largest and most capable amphibious force in the world. Amphibious warfare ships are designed to support the Marine Corps tenets of Operational Maneuver from the Sea (OMFTS) and Ship to Objective Maneuver (STOM). They are able to maneuver in harm's way and facilitate the rapid employment and sustainment of combat power in the face of opposition. Given their inherent capabilities, these ships will continue to be called upon to support the full range of military operations from disaster relief, foreign humanitarian assistance, noncombatant evacuation operations, other crisis response missions, to major combat operations.

LHA AMERICA CLASS

The LHA amphibious assault ship (general purpose) mission is to operate offensively in a high-density, multi-threat environment and support the strategic agility, operational reach and tactical flexibility required for successful amphibious operations and the rapid operational tempo required by the MAGTF. LHA can be the central component of an Amphibious Ready Group (ARG), Expeditionary Strike Group (ESG), or as part of the seabase. The America class is optimized for aviation operations and does not contain a well deck for surface interface operations. The LHA 8 class will restore a two LCAC spot well deck allowing for surface interface operations while maintaining aviation capabilities commensurate with F-35B Joint Strike Fighter and MV-22 Osprey operational requirements. Currently, there are two LHA classes: Tarawa and America. LHA 5 USS Peleliu is the last remaining LHA of the Tarawa class and is scheduled for decommissioning in FY15.

Speed	22.3 knots	***Elevators (Aircraft/Cargo)***	2 aircraft: 37.5 ton each (1 Starboard, 1 Port), 6 cargo: 6 ton each
Crew	1204		
Embarked Landing Force	1518 (90% UIF)		
Surge	184 Accommodations	***Hangar***	25.9K sq ft, two 7 frame high bays 3.9K sq ft each
Medical Capability	2 OR, 24 Wards		
Mass Casualty	699 overflow	***Ramp***	Pier side, Side Port
Potable Water	Distill 200K gallons/day	***Vehicle Sq Ft (Net)***	10.3K sq ft (63% BSF)
Surface Interface Point	0	***Cargo Cube (Net)***	160K cu ft (75% BSF)
Well Deck Capacity	N/A	***Lifting Capacity***	Crash Crane 50K lb
Flight Deck	9 Spots: 3 spots Starboard used for aircraft Stowage Level 1, Class 1	***Cargo Fuel***	1.3 million gallons
		Motor Gasoline	330 gallons embarked in drum or bladder

TARAWA CLASS	AMERICA CLASS
LHA 5 USS Peleliu (decommissioned est FY15)	LHA 6 USS America LHA 7 USS Tripoli (delivery est FY18)

LHD WASP CLASS

The LHD 1 class amphibious assault ship (multi-purpose) mission is to operate offensively in a high density, multi-threat environment as an integral member of an amphibious ready group (ARG). The ship is capable of functioning as an expeditionary strike group flagship. Facilities are provided for an embarked landing force command and staff and for an Expeditionary Strike Group (ESG) Commander and associated staff. During amphibious operations, the ship can operate from over-the-horizon or close to the shoreline under restricted maneuvering conditions. It is able to conduct sustained amphibious operations after the initial assault. The ship is capable of interfacing with both vertical and surface connectors and conducting simultaneous flight deck and well deck operations.

Speed	22+ knots	***Elevators (Aircraft/Cargo)***	2 aircraft: 37.5 ton each (1 Starboard, 1 Port), 6 cargo: 6 ton each
Crew	1285		
Embarked Landing Force	1527 (90% UIF)		
Surge	185 Accommodations	***Hangar***	20.4K sq ft
Medical Capability	6 OR, 18 ICU, 36 Wards, 6 Isolation Wards	***Ramp***	Pier side, Stern
		Vehicle Sq Ft (Net)	17.7K sq ft (63% BSF) includes 1.7K sq ft pre-boat
Mass Casualty	Level II CRTS, 536 overflow		
Potable Water	Distill 200K gallons/day	***Cargo Cube (Net)***	93.8K cu ft (75% BSF)
Surface Interface Point	0	***Cargo Fuel***	LHD 1-4: 455K gallons
Well Deck Capacity	N/A		LHD 5-8: 582K gallons
Flight Deck	9 Spots: 3 spots Starboard for aircraft Stowage (Level 1, Class 1)	***Motor Gasoline***	330 gallons

WASP CLASS

LHD 1 USS Wasp	LHD 5 USS Bataan
LHD 2 USS Essex	LHD 6 USS Bonhomme Richard
LHD 3 USS Kearsarge	LHD 7 USS Iwo Jima
LHD 4 USS Boxer	LHD 8 USS Makin Island

LPD SAN ANTONIO CLASS

The LPD 17 class amphibious transport dock mission is to operate offensively in a medium-density multi-threat environment as an integral member of an Expeditionary Strike Force (ESF) or Expeditionary Strike Group (ESG). The LPD 17 class is not flag-configured. During amphibious assault operations, the ship can conduct near simultaneous combined and coordinated air and surface-launched operations from over-the-horizon or close to the shoreline under restricted maneuvering conditions by coordinating landing and recovery of aircraft and landing craft. The San Antonio class has delivered nine of its eleven ships. LPD 26 and LPD 27 will deliver in FY16 and FY17 respectively.

Speed	22+ knots	***Elevators (Aircraft/Cargo)***	2 cargo: 6 ton and 8 ton, 1 lift platform: 3 ton
Crew	364		
Embarked Landing Force	628 (90% UIF)	***Hangar***	3.3K sq ft, (1 MV-22 or CH-53K) w/ 2.4K sq ft Crane
Surge	101 Accommodations		
Medical Capability	2 OR, 6 ICU, 22 Wards 2 Isolation Wards	***Ramp***	Stern, Side Port
		Vehicle Sq Ft (Net)	20.9K sq ft (65% BSF) includes 1.1K sq ft pre-boat
Mass Casualty	Level II CRTS, 100 overflow		
Potable Water	Distill 72K gallons/day	***Cargo Cube (Net)***	35.9K cu ft (75% BSF)
Surface Interface Point	1	***Lifting Capacity***	Hangar 4.3K, Art Boom 22K, Well Bridge 10K
Well Deck Capacity	9.8K sq ft, 21" 2" height		
Flight Deck	6 Spots: 20.2K sq ft, 2 Ops spots, 4 Exp spots	***Cargo Fuel***	318.3K gallons
		Motor Gasoline	330 gallons

SAN ANTONIO CLASS

LPD 17 USS San Antonio	LPD 23 USS Anchorage
LPD 18 USS New Orleans	LPD 24 USS Arlington
LPD 19 USS Mesa Verde	LPD 25 USS Somerset
LPD 20 USS Green Bay	LPD 26 PCU John P Murtha (est FY16)
LPD 21 USS New York	LPD 27 PCU Portland (est FY17)
LPD 22 USS San Diego	

LSD WHIDBEY ISLAND CLASS AND HARPERS FERRY CLASS

The LSD 41/49 class amphibious dock landing ship mission is to operate in a high density, multi-threat environment as an integral member of a joint task force, amphibious ready group/marine expeditionary unit (ARG/MEU), or expeditionary strike group (ESG). LSD 41/49 class is not flag-configured and no unique facilities are provided for an embarked staff. During amphibious operations, the ship can operate from over the horizon or close to the shoreline in restricted waters to support sustained amphibious operations after the initial assault. The ships are capable of interfacing with both vertical and surface connectors to conduct simultaneous flight and wet well operations.

Note: the following information is for Whidbey Island Class

Speed	20+ knots	***Flight Deck***	2 Operating Spots (17.8K sq ft); LVL I, CL 2A & CL 4
Crew	404		
Embarked Landing Force	365 (90% UIF)	***Elevators (Aircraft/Cargo)***	1 8K lbs
Surge	99 Accommodations	***Ramp***	Pier Side Port, Stern Ramp
Medical Capability	1 OR, 1 ICU, 5 Wards	***Vehicle Sq Ft (Net)***	9.3K sq ft (63%)
Potable Water	Distill 60K gallons/day (store 40K)	***Cargo Cube (Net)***	4.9K cu ft (75% BSF)
		Lighting Capacity	60t Starboard; 20t Port; 15t Bridge (Well Deck)
Surface Interface Point	1		
Well Deck Capacity	20.9K sq ft: 4 LCAC or 3 LCU or 34 EFV	***Cargo Fuel***	52.1K gallons
		Motor Gasoline	330 gallons

Note: the following information is for Harpers Ferry Class

Speed	20+ knots	***Flight Deck***	2 Operating Spots (16K sq ft); LVL I, CL 2A & CL 4
Crew	420		
Embarked Landing Force	365 (90% UIF)	***Elevators (Aircraft/Cargo)***	2 Cargo (12K and 8K lb); 3 Lift Platforms (12K lb each)
Surge	101 Accommodations		
Medical Capability	1 OR, 1 POR, 7 wards	***Ramp***	Pier side, side port (portable), Stern
Potable Water	Distill 60K gallons/day (store 34.8K)	***Vehicle Sq Ft (Net)***	15.2K sq ft (63%)
		Cargo Cube (Net)	49.7K cu ft (75% BSF)
Surface Interface Point	1	***Lighting Capacity***	Boat & Aircraft 30 ton
Well Deck Capacity	9.3K sq ft: 2 LCAC or 1 LCU or 12 EFV	***Cargo Fuel***	51.9K gallons
		Motor Gasoline	330 gallons

WHIDBEY ISLAND CLASS	HARPERS FERRY CLASS
LSD 41 USS Whidbey Island	LSD 49 USS Harpers Ferry
LSD 42 USS Germantown	LSD 50 USS Carter Hall
LSD 43 USS Fort McHenry	LSD 51 USS Oak Hill
LSD 44 USS Gunston Hall	LSD 52 USS Pearl Harbor
LSD 45 USS Comstock	
LSD 46 USS Tortuga	
LSD 47 USS Rushmore	
LSD 48 USS Ashland	

MARITIME PREPOSITIONING FORCE SHIPS

Maritime Prepositioning Force (MPF) ships are operated by the Military Sealift Command (MSC) and are a vital element of the Navy-Marine Corps seabasing capability. The primary purpose of the MPF program is enabling the rapid deployment of a fully capable Marine Air-Ground Task Force (MAGTF) anywhere in the world in support of our National Defense Strategy. To enable rapid availability during a major theater war, a humanitarian operation, or other contingency, each ship carries military equipment and supplies, thereby reducing reliance on other strategic sealift. This strategic capability combines the capacity and endurance of sealift with the speed of airlift.

The MPF is inherently flexible to respond to a full spectrum of contingencies with effective power projection. Whether pier side, in-stream, or at sea, MPF ships have unique capabilities to deliver rolling stock, tracked vehicles, ammunition, supplies, bulk fuel and water. These ships are divided into two Maritime Prepositioning Ships Squadrons (MPSRON). MPSRON-2 is sited at Diego Garcia and MPSRON-3 is sited at Guam/Saipan.

The MPF program currently has 12 prepositioning ships, including four LMSRs, two T-AKEs, and six T-AKs. Once operationally available, two Mobile Landing Platforms (MLP) will be added to the MSC inventory bringing the total to 14 prepositioning ships. The new MLPs will provide combatant commanders new seabasing-enabled capabilities for selective offload and sustainment operations.

T-AKR BOB HOPE CLASS AND WATSON CLASS

The T-AKR, also known as the Large, Medium-Speed, Roll-on/Roll-off Ship or LMSR, is among the largest cargo ships in the world and can carry 350,000 to 390,000 square feet of combat cargo (the equivalent of more than six football fields) at speeds up to 24 knots. These ships are capable of self-sustained roll-on/roll-off (RO/RO) and lift-on/lift-off (LO/LO) operations at a pier and also in a Logistics-Over-the-Shore (LOTS) scenario via stern ramps to a RO/RO Discharge Facility (RRDF). In addition, the LMSR is capable of self-sustained LO/LO cargo operations in a LOTS scenario by interfacing with lighterage. LMSR ships are not armed and do not have ship self-defense systems.

Note: the following information is for the Bob Hope Class

Speed	24 knots	***Flight Deck***	1 Spot H-53, Level 2, Class ¾ (Seay: MV-22: Level II, Class 4)
Crew	40		
Embarked Landing Force	~125		
Medical Capability	Sick-call	***Aircraft Parking***	None
Mass Casualty	None	***Elevators***	None
Potable Water	Distill 20.5K gallons/day (store 55K)	***Ramp***	Stern
		RO/RO sq ft (Gross)	317.5 sq ft
Lighterage	INLS 1 WT and 3 CF	***TEU Container Cargo***	278 TEU
Surface Interface Point	INLS, MPF UB, LCM-8	***LO/LO Capability***	Two sets: Single: 63 Short Tons, & Twin 126.56 Short Tons
Well Deck Capacity	N/A		
		Cargo Fuel	None

BOB HOPE CLASS	WATSON CLASS
T-AKR 302 USNS Seay	T-AKR 311 USNS Sisler
T-AKR 304 USNS Pililaau	T-AKR 312 USNS Dahl

T-AKE LEWIS AND CLARK CLASS

Lewis and Clark class (T-AKE) dry cargo/ammunition ships are auxiliary support ships capable of prepositioning supplies and enabling selective offload to deliver sustainment supplies to Marine forces ashore. Its primary mission role is to provide logistic lift to deliver cargo (ammunition, food, limited quantities of fuel, repair parts, ship store items, and expendable supplies and material) for resupply and sustainment of forces ashore. The T-AKE replaced the previously time-chartered containerships in 2012, and at 689-feet, the T-AKE has the largest cargo-carrying capacity and the largest flight deck of any combat logistics ship afloat.

Speed	20 knots	***Aircraft Parking***	2 MH-60S, Hangar: 2.5K sq ft, Crane 4K
Crew	54 MSC		
Embarked Landing Force	~144	***Elevators***	Eight (four 8 ST and four 6 ST)
Medical Capability	Sick-call		
Mass Casualty	None	***Ramp***	None
Potable Water	Distill 30K gallons/day (store 50.1K)	***RO/RO sq ft (Gross)***	None
		TEU Container Cargo	954K cu ft
Lighterage	None	***LO/LO Capability***	Four Cranes 11 Short Tons
Surface Interface Point	None	***Cargo Fuel***	1.05 million gallons
Flight Deck	1 Spot, Level 1, Class 2		

LEWIS AND CLARK CLASS

T-AKE 1 USNS Lewis and Clark
T-AKE 2 USNS Sacagawea

T-AK SHUGHART CLASS

The T-AK USNS GYSGT Fred W. Stockham is a converted large, medium speed RO/RO (LMSR) ship that strategically positions supplies for the U.S. Marine Corps at sea. This ship is laden with a variety of Marine Corps equipment and supplies, including ammunition, food, water, cargo, hospital equipment, petroleum products and spare parts. These ships are capable of conducting RO/RO and or LO/LO operations pier side and in stream, and are capable of providing shipboard aviation facilities for Level 2, Class 2/4 in support of limited cargo and personnel transport operations. The Stockham was the only MPF(E) ship retained in the MPF program after the 2011 fiscal efficiency review and program reorganization.

Speed	24 knots	***Aircraft Parking Ramp***	None
Crew	29 MSC, 12 Maintenance		Side Port 79.5 short tons; Stern Ramp (Slewing) 79.5 short tons
Embarked Landing Force	83		
Medical Capability	Sick-call		
Mass Casualty	None	***Vehicle Sq Ft (Net)***	218K sq ft enclosed
Potable Water	Distill 19K gallons/day (store 160K)	***TEU Container Cargo***	545
		LO/LO Capability	Two cranes: 1 twin 126.6 short tons AFT and 1 single 63.8 short tons FWD
Surface Interface Point	0		
Well Deck Capacity	N/A		
Flight Deck	1 Spot Level 2, Class 2/4		

SHUGHART CLASS

T-AK 3017 USNS Stockham

T-AK BOBO CLASS

The T-AK BOBO Class are large, medium-speed RO/RO dry cargo ships that preposition equipment and supplies in strategic locations at sea for rapid delivery ashore in response to military or humanitarian crises. These ships are capable of conducting RO/RO and or LO/LO operations pier side and in stream, and are capable of providing shipboard aviation facilities for Level 2, Class 3/4 in support of limited cargo and personnel transport operations.

Speed	17.7 knots	***Aircraft Parking***	None
Crew	30 MSC, 13 COI	***Elevators***	None
Embarked Landing Force	96	***Ramp***	Stern
Medical Capability	Sick-call	***RO/RO sq ft (Gross)***	152K sq ft
Mass Casualty	None	***TEU Container Cargo***	546
Potable Water	Distill 36K gallons/day (store 99K)	***LO/LO Capability***	Five Cranes: 46.68 Short Tons each, Twin 87.36 Short Tons, Triple 131.04 Short Tons
Lighterage	INLS 1 WT and 3 CF		
Surface Interface Point	INLS, MPF UB, LCM-8		
Well Deck Capacity	N/A	***Cargo Fuel***	1.43 million gallons
Flight Deck	1 Spot Level 2, Class 3/4 (up to CH-53E Level 2, Class 4 (MV-22) all except Lopez		

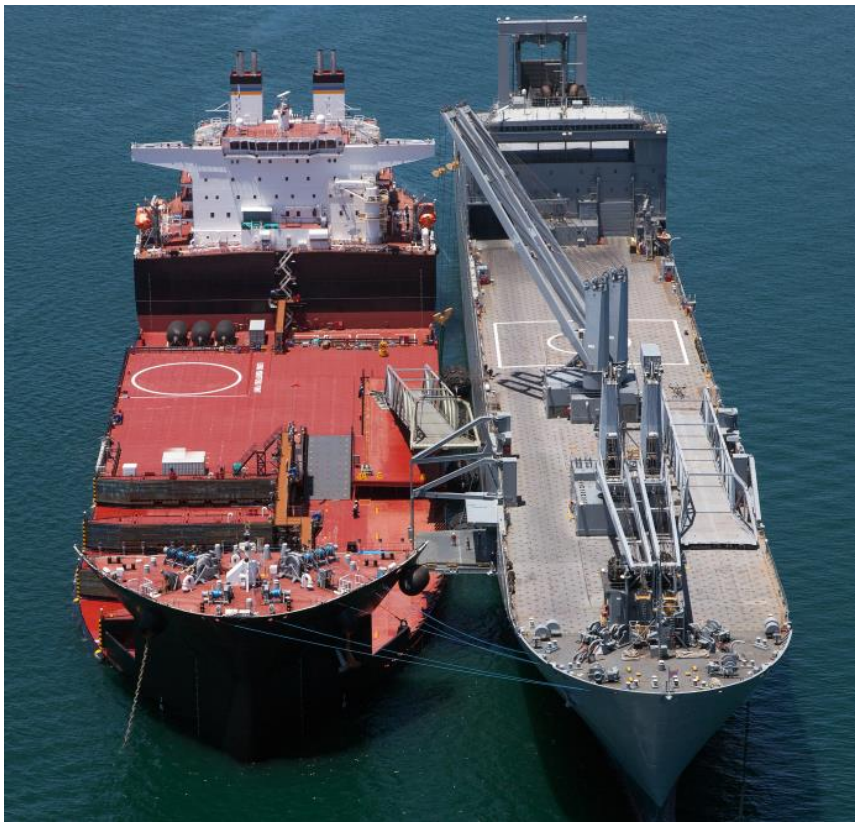
BOBO CLASS

T-AK 3008 USNS Bobo
T-AK 3009 USNS Williams
T-AK 3010 Lopez
T-AK 3011 USNS Lummus
T-AK 3012 USNS Button

MLP MONTFORD POINT CLASS

The Mobile Landing Platform, also known as the MLP, is a cornerstone of Navy-Marine Corps seabasing capabilities and is designed to increase intra-theater agility, enhance throughput capability for the MPF, and support a broad range of military operations. It serves as a transfer point within the seabase by facilitating delivery of vehicles, equipment, personnel and supplies in the seabase, from ship-to-ship, ship-to-shore and in restricted access locations ashore.

By leveraging float-on/float-off (FLO/FLO) technology and a reconfigurable mission deck, the MLP is transformed into a seagoing pier when access to on-shore bases and support are unavailable. Integrating non-displacement connectors into the offload mitigates natural obstacles and increases the percentage of usable beaches which further thwarts anti-access/area denial (A2/AD) measures. The ability to selectively offload, access and deliver ashore only the equipment and supplies needed for the mission brings operational and logistical efficiencies that make MPF a more responsive and affordable option.



Speed	15 knots	***Flight Deck***	1 Spot USCG - MOD
Crew	34 MSC	***Aircraft Parking***	None
Embarked Landing Force	None	***Elevators***	None
Medical Capability	None	***Ramp***	1 Vehicle Sideport
Mass Casualty	None	***RO/RO sq ft (Gross)***	25K sq ft (raised vehicle deck)
Potable Water	Distill 25K gallons/day (store 100K)	***TEU Container Cargo***	None
		LO/LO Capability	None
Lighterage	None	***Cargo Fuel***	380K gallons
Surface Interface Point	3/3 LCAC Berths	***S&T Programs***	Advanced Mooring System
Well Deck Capacity	N/A		

MONTFORD POINT CLASS

MLP 1 USNS Montford Point

MLP 2 USNS John Glenn (launched Sept 2013)

SUPPORT SHIPS

While most active ships in MSC's prepositioning fleet strategically place military supplies and equipment at sea, there are other ships that support the Navy-Marine Corps team when needed, including the offshore petroleum distribution system ship (USNS Wheeler); two aviation logistics support ships (SS Curtiss and SS Wright) that are activated as needed from reduced operating status (ROS) to provide at-sea maintenance for fixed- and rotary-wing aircraft; and two hospital ships (USNS Mercy and USNS Comfort). The hospital ships each contain 12 operating rooms and up to 1,000 beds. The ships are normally kept pier side in reduced operating status (ROS), but when called into action they can get underway in five days with an expanded crew of more than 60 Civilian Mariners (CIVMARs) and up to 1,200 military medical personnel.

LCC BLUE RIDGE CLASS

The LCC is an amphibious command ship that can fulfill command and control requirements for surface, subsurface, and air units engaged in amphibious assaults. The LCC's mission is to be the command ship for an amphibious task force (ATF), MEF, or the C4I platform for a joint task force. This is the only class of ship designed from its hull up to support the command and control needs of the ATF and landing force commanders, and the tactical air control center (TACC).

Speed	23 knots	***Flight Deck***	1 Helicopter Landing Spot
Crew	774	***Vehicle Sq Ft (Net)***	3,015 sq ft
Embarked Landing Force	209	**Cargo Cube (Net)**	2,175 cu ft
Organic Craft	2 Landing Craft, personnel, large (LCPL) and 1 Utility Boat	***Cargo Fuel***	123K gallons

BLUE RIDGE CLASS

LCC 19 USS Blue Ridge
LCC 20 USS Mount Whitney

JHSV SPEARHEAD CLASS

The Joint High Speed Vessel (JHSV) provides critical intra-theater, surface connector capability to enable the joint force commander to project forces and sustainment at high speeds over operational distances. The JHSV can self-deploy to a theater of operations and, once in theater, provide high-speed transport to move forces and supplies within that theater. Specifically, the JHSV can deliver equipment, personnel, and supplies over the intra-theater ranges to shallow, austere, and degraded ports.

Speed	35 knots in sea state 3	***Ramp***	Slewing Stern Ramp, capable of holding M1A2 tank
Range	1200 nautical miles		
Troop Capacity	312/4 days or 104/14 days	***Cargo Capacity***	22K sq ft / 600 Short Tons
Flight Deck	Level I, Class 2	***S&T Programs***	Interface Ramp

Note: Speed and payload weight dependent

SPEARHEAD CLASS

JHSV 1 USNS Spearhead	JHSV 6 Brunswick *(delivery est 2015)*
JHSV 2 USNS Choctaw County	JHSV 7 Carson City *(delivery est 2016)*
JHSV 3 Millinocket	JHSV 8 Yuma *(delivery est 2016)*
JHSV 4 Fall River *(delivery est 2014)*	JHSV 9 Bismark *(delivery est 2017)*
JHSV 5 Trenton *(delivery est 2015)*	JHSV 10 Burlington *(delivery est 2018)*

T-AVB WRIGHT CLASS

T-AVB aviation logistics support ships provide a dedicated sealift/seabase for the rapid movement of the aviation intermediate level (I-level) maintenance capability and supply support to sustain fixed and rotary-wing aircraft. Secondary mission is to provide strategic lift in a conventional container or Roll-On/Roll-Off (RO/RO) configuration. These ships are self-sustaining, having cranes and lighterage that enable them to lift-on/lift-off (LO/LO) their own cargo. They allow for deployment of selected, scalable and seabased expeditionary logistics support to a MAGTF MEB ACE. These ships are maintained in five day Reduced Operating Status-5 (ROS-5) by the Maritime Administration (MARAD), and when activated to Full Operational Status (FOS) are under the operational control of Military Sealift Command (MSC).

Speed	18 knots (80% power)	***Flight Deck***	Level 2/Class all helicopters except CH-47 and MV-22
Crew	41 MSC		
Embarked Force	325: 1 Aviation Maintenance Detachment	***TEU Container Cargo***	688 (8'x8'x20')

WRIGHT CLASS

T-AVB 3 SS Wright
T-AVB 4 SS Curtiss

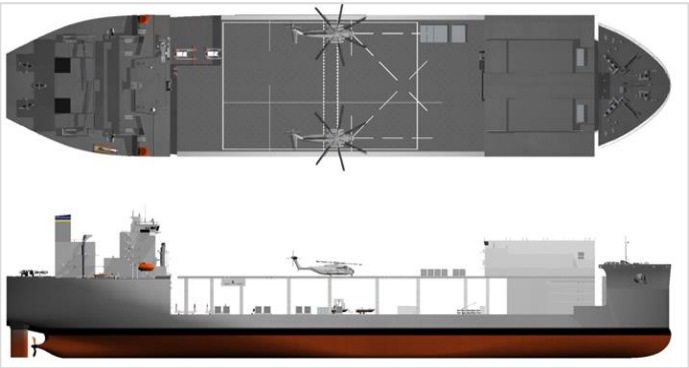
T-AH HOSPITAL SHIP MERCY CLASS

T-AH hospital ships are owned and operated by MSC. They provide emergency, on-site care for forces deployed in war or other operations as well as full hospital services to support U.S. disaster relief and humanitarian operations worldwide. Each hospital ship contains 12 fully equipped operating rooms, a 1,000 bed hospital facility, digital radiological services, a medical laboratory, a pharmacy, an optometry lab, a CAT-scan, and two oxygen producing plants. Each is equipped with a flight deck capable of landing large military helicopters. The ships also have side ports to receive patients at sea. The ships are kept in ROS but can be fully activated and crewed within five days.

Speed	17.5 knots	***Flight Deck***	Helicopter platform and hanger
Crew	65		
Medical Personnel	1215 max		

MERCY CLASS

T-AH 19 USNS Mercy
T-AH 20 USNS Comfort



MLP AFSB VARIANT

The MLP Afloat Forward Staging Base (AFSB) variant is the first purpose-built AFSB vessel for the Navy. The Ponce, formally LPD 15, was repurposed as an interim (I) AFSB in 2012. There will be two MLP AFSBs. USNS Lewis B. Puller, MLP 3/AFSB 1, is scheduled for completion in 2015 and is slated to replace the Ponce. Based on the hull of an Alaska class crude oil tanker, the AFSB will act as a low cost base for mine counter measure (MCM) helicopters and special operations forces. This ship will field an extremely large helicopter deck and accommodations for up to 250 embarked personnel. Born from a long-standing request from U.S. Central Command (CENTCOM), the AFSB is an effective option to deploy forces for low-intensity operations without reducing the availability of amphibious warships required for other missions.

Speed	15 knots	***Flight Deck***	Level 1 Class 2 for aircraft flight ops, Level I Class 4, Type 3 for VERTREP ops
Crew	34 MSC		
Berths	250		
Potable Water	115K gallons	***TEU Container Cargo***	12
Mission Deck Cargo	25.4K sq meter	***Cranes***	3
		Cargo Fuel	500K gallons

AFSB MONTFORD POINT CLASS

MLP 3 USNS Lewis B. Puller
MLP 4 USNS (TBD)

CONNECTORS

The term "Connector" was coined in the Seabasing Joint Integrating Concept (JIC), published by the Vice Chairman of the Joint Chiefs of Staff in 2005, and has served as the foundation for science and technology and amphibious and expeditionary maneuver capabilities development since that time. The JIC characterizes the surface and vertical lift platform capabilities that are a critical component either organic to, or in support of, the seabase to transport personnel, supplies, and equipment within the seabase and maneuver them from the seabase to objectives ashore. Connectors are arguably the most critical capability possessed by any seabase. The MV-22 Osprey, CH-53 Super Stallion, UH-1Y Huey, Landing Craft Air Cushion (LCAC), Landing Craft Utility (LCU), Joint High Speed Vessel (JHSV), Improved Navy Lighterage System (INLS) and the Lighter, Amphibious Resupply, Cargo-V (LARC-V), among others, combine to ensure the key functions of preparing for movement, littoral maneuver, and force projection can be effectively executed from the seabase.

LANDING CRAFT AIR CUSHION (LCAC)

The LCAC is a high-speed, fully amphibious craft. Its ability to ride on a cushion of air allows it to operate directly from the well decks of amphibious warfare ships and to access more than 70 percent of the world's beaches, compared to 17 percent for displacement landing craft. A service life extension program (SLEP) began in late 2000 for the 72 active LCACs and provides major refurbishment to extend LCAC craft service life to 30 years. The Ship-to-Shore Connector (SSC) program is developing a replacement for the in-service LCACs and the LCAC (SLEP) as these craft reach the end of their service lives.

Speed	35 knots	***Troop Capacity***	24
Range	116 nautical miles	***Cargo Capacity***	60/73 overload/short tons

Note: Range is based on payload of 74.5 tons in an operational environment of 80 degrees F, 35-knot speed of advance, 1 ft. significant wave height, and 8-knot winds. (Safe Engineering & Operations (SEAOPS) Manual - LCAC (SLEP) Program)

LANDING CRAFT UTILITY (LCU)

The LCU complements the LCAC by transporting the heaviest loads of equipment and supplies ashore while providing the ability to operate independently in support of intra-theater transport, security cooperation, non-combatant evacuation, foreign humanitarian assistance, and disaster relief operations. LCUs have both bow and stern ramps for onload/offload and are capable of conducting independent open ocean transits or operations at sea for up to 10 days. The 40+-year-old LCU fleet will be replaced by the Surface Connector (X) program.

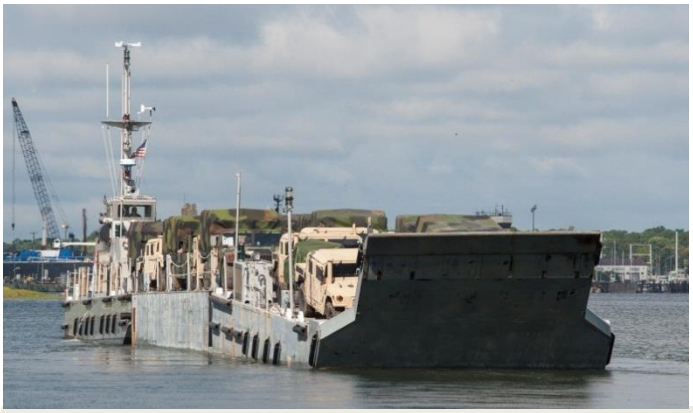
Speed	12 knots max	***Troop Capacity***	400
Range	1200 nautical miles	***Cargo Capacity***	140 Short Tons

Note: Cargo capacity reflects LCU technical warrant holder recommended maximum deck cargo load due to the service life/increased light ship weight of LCU.

LIGHTER, AMPHIBIOUS RESUPPLY, CARGO-V (LARC-V)

The LARC-V SLEP is an amphibious vehicle used by the beach party in surf zone salvage, recovery, dewatering, casualty evacuation, C2 roles, ramp checks, and occasionally for the transportation of personnel and equipment. LARC-V SLEP are currently the only Beach Master Unit assets available for hole checks, a method used to determine the best/safest offload point for displacement craft. In general, each ARG or ATF deploys with at least one LARC-V SLEP, and often two. LARC-V SLEPs are also embarked on MPF ships.

Speed	7.5 knots	***Troop Capacity***	20
Range	40 nautical miles	***Cargo Capacity***	5 Short Tons



IMPROVED NAVY LIGHTERAGE SYSTEM (INLS)

The INLS is a redesign of the Navy's modular causeway system, and is comprised of powered and non-powered platforms/modules that are connected to form the Causeway Ferries (CFs) designed to transfer cargo from maritime prepositioning and military sealift command ships to shore when port facilities are damaged, inadequate, or not available. The RO/RO Discharge Facility (RRDF) provides the at-sea interface platform between the ship and the CF to provide offloads of vehicles and equipment. Causeway Ferries can also enter the well decks of amphibious warfare ships to provide additional options to support ship-to-shore movement.

Speed	10 knots	***Troop Capacity***	Varies based on load
Range	243 nautical miles	***Cargo Capacity***	280 Short Tons

Note: Range is based on 50% payload at 9 knots

MARITIME PREPOSITIONING FORCE UTILITY BOAT (MPF UB)

The MPF UB is a commercial design utility craft used to support personnel and light equipment movement and logistics during MPF offload operations. Additionally, the MPF UB can provide waterborne force protection as well as limited medical evacuation support in a protected environment. A bow ramp facilitates embarking and discharging personnel over a ramp, low pier, or quay. Payload is five short tons, including up to 30 personnel with 150 pounds of equipment at up to 25 knots at full load.

Speed	38 to 42 knots	***Troop Capacity***	30 Combat Troops
Range	300 nautical miles	***Cargo Capacity***	5 Short Tons

MV-22B OSPREY

The MV-22B joins JHSV, CH-53, and LCAC as the sea-basing connectors that enhance our ability to execute over-the-horizon expeditionary maneuver warfare. Specific missions for the MV-22B include expeditionary assault from land or sea, medium-lift assault support, aerial delivery, tactical recovery of aircraft and personnel, air evacuation, and rapid insertion and extraction. The V-22 is a multi-mission aircraft designed for use by the Marine Corps, U.S. Navy, and U.S. Air Force.

Speed	262 knots	***Troop Capacity***	24 Combat Troops
Range	325 nautical miles	***External Payload***	10K lbs (single), 15K (dual)
Self-Deployment Range	2100 nautical miles	***Internal Capacity***	20K lbs cargo, 12 litters

CH-53E/K

The CH-53 is a heavy lift helicopter designed to transport heavy equipment and supplies during the ship-to-shore movement of an amphibious assault and during subsequent operations ashore. The CH-53K new build helicopter is the only marinized helicopter that can lift 100% of the Marine Corps equipment designed for vertical lift from amphibious shipping to inland objectives under high altitude and hot atmospheric conditions. The aircraft will be capable of externally transporting 27,000 lbs to a range of 110 NM in support of the baseline MEB and is the only heavy lift helicopter currently being developed within DoD.

Note: the following information is for the CH-53E

Speed	150 knots	***External Payload***	Hook rated to 32K lbs
Range	540 nautical miles	***Internal Capacity***	24 Litters
Troop Capacity	32 Troops		

Note: the following information is for the CH-53K

Speed	170 knots	***External Payload***	Hook rated to 36K lbs
Range	507 nautical miles	***Internal Capacity***	24 Litters
Troop Capacity	30 Troops		

UH-1Y HUEY

The UH-1Y is a multi-purpose utility helicopter that can be used in the sea base as a ship-to-ship or ship-to-objective vertical connector capable of transporting personnel, equipment, and supplies. With its increased speed and lift capacity, the UH-1Y gives the MAGTF a significantly increased maneuver, C2, and logistics capability.

Speed	145 knots (cruise), 170 knots (max)	***Troop Capacity***	8
Combat Range	129 nautical miles with 2.2K lb payload	***Cargo Capacity***	6.7K lbs
		External Payload	3.1K lb
		Internal Capacity	6.6K lbs cargo, 6 litters

SCIENCE & TECHNOLOGY

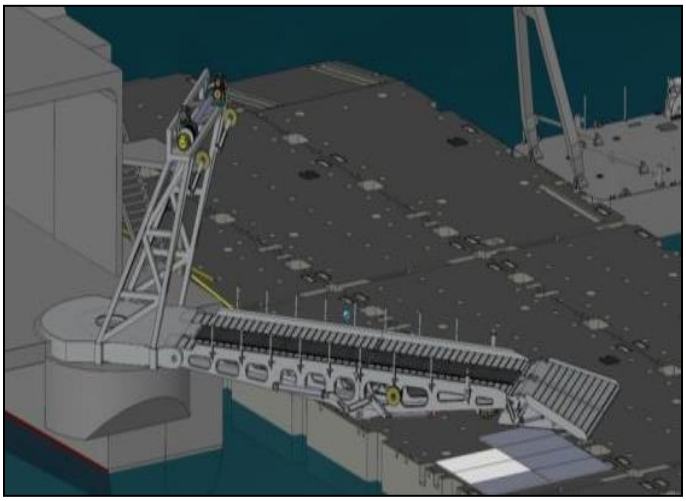
The overarching goal for seabasing Science and Technology (S&T) efforts is to ensure that the various components of the seabase are interoperable and optimized to support the range of military operations (ROMO) in the most cost-effective manner possible.

Technological superiority is a cornerstone of national military strategy. In peacetime, technological superiority is a key element of deterrence. In crisis, it provides a wide spectrum of options to the Nation, while providing confidence to allies. In war, it enhances combat effectiveness, reduces casualties, and minimizes equipment loss -- it provides the edge. Advancing military technology and rapidly transitioning it to the warfighter are now national security obligations of ever-greater importance. New technologies, coupled with new operating concepts, provide ever greater degrees of selective access and retrieval of equipment and supplies.

Since its approval in 2005, no concept has been the focus of more analysis and discussion than the Seabasing Joint Integrating Concept (JIC). Driving the interest in Seabasing is the increasingly difficult problem of operational access for our military forces -- not only of an adversary seeking to deny access to an operating area but also of reluctant allies struggling to balance domestic sensitivities and priorities with their regional security obligations. For Marines operating in this environment, Seabasing provides GCCs and the MAGTFs the capabilities needed for engagement, crisis response, and power projection across the range of military operations.

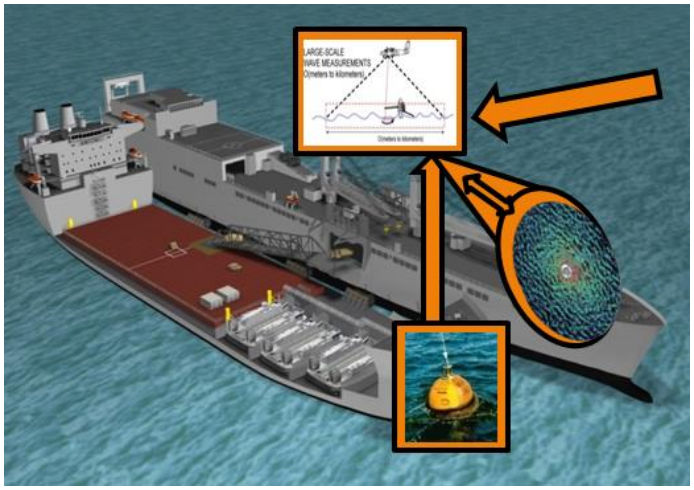
Advanced Mooring System (AMS)

One of the most difficult challenges facing forces conducting seabased operations is the need to bring ships, vessels, craft, and lighterage together to facilitate the transfer of personnel, equipment, and cargo from one platform to another in less than ideal weather conditions. AMS enables frequent, safe, and fast mooring at sea with minimal manpower (no line handling). When installed on the MLP or other ships, it would facilitate their use as an open-ocean hub for transfer of equipment, supplies, mission packages, and personnel. AMS completes its S&T phase in FY15.



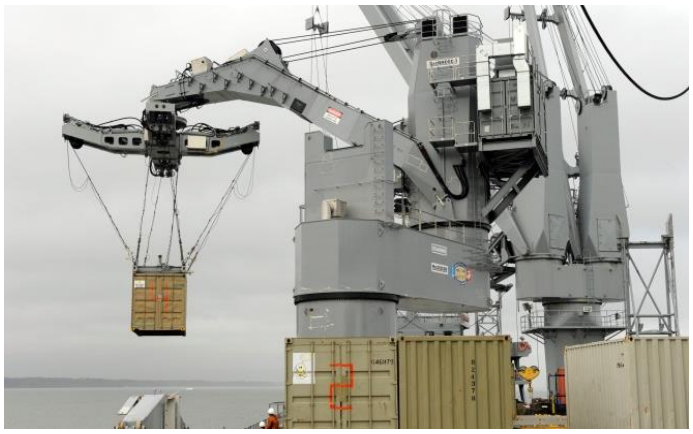
Interface Ramp Technology (IRT) for JHSV

The JHSV is a critical surface connector, linking intermediate staging bases, ships of the seabase, and forces operating ashore. As currently delivered, it is limited in its ability to accomplish those interfaces in all but the lowest sea states. To enhance the JHSV's ability to transfer personnel, equipment, and cargo within the seabase in more adverse environmental conditions, it requires a more capable ramp. The Interface Ramp Technology (IRT) project developed technologies for future JHSV ramps. JHSVs incorporating these technologies will offload quickly and efficiently across a wider range of operating conditions than is currently possible. IRT technologies will lead to an advanced, lightweight, cost-effective ramp system for the JHSV capable of sea state 3 (threshold) and sea state 4 (objective) transfer operations.



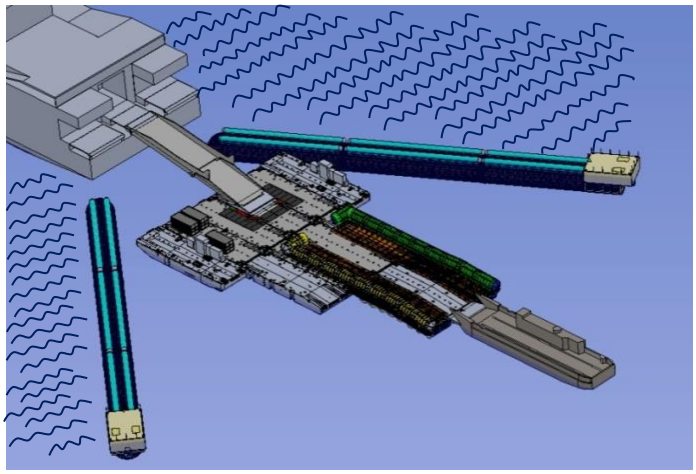
Environmental Ship Motion Forecasting (ESMF)

The ESMF is a tool that forecasts wave motion and ship motion response. The tool will help ship captains, masters, and their deck crews determine whether it is prudent and safe to conduct ship-to-ship transfer of people, equipment, and cargo. It extends the operational environment for various missions by predicting time periods or ship headings where cargo movement may be conducted despite sea states normally considered beyond safe operating limits. Conversely, it would predict unsafe operating systems in sufficient time to take action to amend or suspend operations. ESMF's ability to predict ship motions will significantly increase the safety of operations between two vessels conducting cargo transfer at sea. ONR completes the ESMF S&T phase in 2015, after which PEO Ships will continue development and testing.



Large Vessel Interface (LVI) LO/LO

Large Vessel Interface Lift On/Lift Off (LVI LO/LO) is an advanced, motion-compensated, at-sea cargo transfer system enabling transfer of fully-loaded cargo containers between ships and vessels in up to sea state 4 (SS4). The fully developed technology gives the warfighter the ability to move containerized logistics through the seabase without having to secure a deep water port for container ship off-loading. This capability greatly increases the seabase's potential throughput capacity and provides a key logistical enabler for the GCC to support joint task force operations ashore. LVI LO/LO completed its S&T phase in 2011. The technology continues to be refined and tested by PEO Ships.



Flexible Seabased Force Projection (FSFP)

The FSFP is a unique and simple approach for reducing local sea states in lieu of developing potentially expensive engineering solutions to overcome adverse operating conditions. Inflatable, fillable rigid structures deploy as a wave barrier in and around ships, vessels, craft, and platforms that reduces sea states (SS) from SS4 to SS3 or from SS3 to SS1-2, thereby better enabling cargo transfer operations, surface connector interfaces, and amphibious vehicle launch and recovery. The FSFP uses inflatable structure technologies to enable launch and recovery of amphibious vehicles from a wide range of seabased platforms. This system will interface with existing seabase components to support surface vessel transfer operations.

Ultra Heavy-Lift Amphibious Connector (UHAC)

The UHAC is an ONR initiative to mature and refine technologies for use in future watercraft development programs. A four-tenths scale demonstrator has been designed, built, and tested. A displacement craft designed with buoyancy and propulsion systems enabled by innovative captive air-cell technology, a full scale UHAC would have up to three times the payload of the SSC at 20 knots, approximately the same payload as a 1600-series LCU. It would have the same well deck footprint as a SSC, but with speeds twice that of an LCU. The captive air cell technology also yields a low ground pressure footprint (less than two psi), and would give it the ability to traverse mud flats or climb over obstacles in excess of 10 feet. With a projected range of over 200 miles, UHAC could deliver forces and sustainment from well over the horizon. Future surface connectors with UHAC's speed, payload, range, and ability to operate to and through a beach would give GCC and MAGTF commanders a significant time-distance advantage in projecting forces ashore .

JOINT CAPABILITY TECHNOLOGY DEMONSTRATION (JCTD)

The Joint Capability Technology Demonstration (JCTD) Program directly addresses DoD, multi-Service and GCC priorities through partnering and cost sharing with solution providers and resource sponsors. The value and impact of the JCTD program is to cost-effectively address the GCC priorities and the Department of Defense strategic initiatives to mitigate emergent threats, address affordability, and ensure the interoperability of defense systems through developmental and operational prototyping. JCTDs provide key partnerships with the Department of Defense, the Services, and other government agencies, select allies, and industry that allow for expedited development, deployment, and evaluation of capability solutions with the potential to close validated warfighting capability gaps. The JCTD program typically demonstrates solutions within two to four years and has a transition rate to the warfighter of greater than 80 percent.

DENSE PACK ACCESS, RETRIEVAL AND TRANSIT (DPART)

The Dense Pack Access, Retrieval and Transit (DPART) Joint Capability Technology Demonstration (JCTD) is a 30 month, FY13-initiated effort co-sponsored by PACOM and TRANSCOM with the Marine Corps as the lead Service. The DPART JCTD key deliverables include one hybrid/electric powered Container-Lift and Maneuver System (C-LMS), one electric powered Autonomous Naval Transport-Large Wheeled Vehicle (ANT-LWV), and one Universal Remote Control (URC). The C-LMS is specifically designed to lift and maneuver 20-foot ISO Containers in confined spaces not accessible by traditional material handling equipment. The ANT-LWV is designed to lift and maneuver 3 axle vehicles within the Medium Tactical Vehicle Replacement (MTVR) family of vehicles. The DPART components are intended to complement existing Material Handling Equipment (MHE) current employed aboard ships and shore based activities.

This technology will allow Combatant Commanders the ability to 1) rapidly and selectively access, project, reconstitute and redeploy flexible, scalable and tailorable joint forces and logistical support across the range of military operations, 2) selectively access and move cargo while enroute and to exit points where cargo can be readily moved ashore by other means at the objective, 3) transit containers up or down vessel or other ramps and onto/off of lighters/connectors, and 4) reconfigure loads while enroute to meet changing mission requirements (e.g., access and pre-stage for rapid offload). Additionally, these capabilities will have a wide array of applications at bases, stations, and depots, particularly when moving non-operational vehicles.

The DPART JCTD officially commenced in August 2013 and is scheduled to transition to the General Services Administration in FY16.

AFLOAT COMMAND AND CONTROL, COMMUNICATIONS, AND COMPUTERS (C4)

To be successful in maritime and amphibious operations across the range of military operations (ROMO), GCCs and forward-deployed forces require seabased platforms and connectors. However, just as essential to their success are naval and joint Afloat Command, Control, Communications, and Computers (C4) capabilities. These afloat C4 systems at the most basic level are about information: receiving it, judging its value, processing it into useful forms, acting on it, and sharing it with others. C4 systems enable our GCCs and MAGTFs to make the most of the information they have.

Critical C4 capabilities include high throughput (bandwidth) communications that are especially relevant to independent, disaggregated, and special operations. The minimum thresholds required will enable individual platforms to operate as single ship deployers, synchronize effects in a joint-environment, leverage reach-back support, exploit ISR products, and perform basic logistics and administrative functions.

Afloat networks continue to degrade and become obsolete much faster than they are being upgraded or refreshed. Recently deployed ARG/MEUs have reported that their degraded shipboard networks significantly impact operations, to include multiple levels of Command and Control (C2), specifically, the Common Operational Picture/Common Tactical Picture situational awareness; Intelligence, Surveillance and Reconnaissance (ISR) receipt and dissemination, and embarked Navy and Marine Corps elements.

Mitigating the challenges of command and control of afloat forces is crucial to the success of our nation, GCCs, and Navy and Marine Corps. Recent history of deployed forces strongly indicates that the new, non-traditional norm will be ARG/ATF ships operating independently from the MEU or the MEB as single ship deployers or for special operations. Hence, MAGTF afloat C4 capabilities must support this new norm to ensure a viable C4 environment across a wide variety of operating requirements.

War is the realm of uncertainty; three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty. . . The commander must work in a medium which his eyes cannot see; which his best deductive powers cannot always fathom; and with which, because of constant changes, he can rarely become familiar.

—Carl von Clausewitz

Afloat MAGTF C4 Requirements. Since 1992, the Marine Corps has published Afloat C4 requirements in various formats. The most recent is the 2014 Afloat Marine Air Ground Task Force (MAGTF) Command and Control, Communication, and Computers (C4) Required Capabilities (AMC4RC) letter. This letter maps gaps and capabilities to required solutions and/or services to inform Navy and Marine Corps programming efforts during near-term POM FY17 funding cycles.

Specifically, the AMC4RC includes 1) prioritized list for direct near-term POM development for USMC and MPF platforms, 2) capabilities required to support USMC war-fighting functions, 3) required services with detailed technical specifications to facilitate integrated materiel solutions, 4) network connections and telephony requirements by vessel class and space, and 5) afloat baseline that lists systems required aboard designated class ships to conduct operations and assigned missions. The letter is prepared annually by the Seabasing Integration Division on behalf of the Deputy Commandant, Combat Development & Integration.

Afloat Networks. Afloat network capabilities directly impact warfighting functions and all facets of Command and Control (C2) for both embarked Navy and Marine Corps elements. Consolidated Afloat Networks and Enterprise Network Services (CANES) will provide network upgrades, enterprise services (chat, email, internet, and video), increased network security, and virtualization in an afloat network environment. However, the rapid change of industry information technology continues to make the capacity and capability of networks a constant evolution, and afloat networks must be rapidly adaptable to remain current and interoperable across a joint and global force.

MILSAT (Military Satellite). MILSAT communications is the primary secure means for over-the-horizon and beyond line of sight support to strategic, operational, and tactical level warfighting capabilities. The Navy Multiband Terminal (NMT) will provide critical, high-throughput (bandwidth) communications that are especially relevant to independent, disaggregated, and special operations.

COMSAT (Commercial Satellite). COMSAT communications provide redundancy, survivability, and surge support to the Naval forces. Commercial satellite systems are not required to be protected and provide flexibility in coverage and cost for service throughput augmentation to MILSAT. The Commercial Broadband Satellite Program (CBSP) and INMARSAT systems provide this capability. MPF and MSC platforms rely almost exclusively on this capability for connectivity between platforms and shored based facilities.

HF-SAR (High Frequency - Shipboard Automatic Link Establishment Radio). HF-SAR is used for non-satellite, over-the-horizon voice and data communications to request air support, control maneuver, perform reconnaissance, coordinate fires and effects, and coordinate logistics during the advanced force and assault phases of an amphibious operation. HF-SAR is the only voice and data, single-system over-the-horizon capability in a satellite communication (SATCOM) denied or congested environment.

EMUT (Enhanced Manpack Ultra-High Frequency (UHF) Terminal). EMUT supports voice and data satellite communications from the MAGTF afloat C2 spaces (Landing Force Operations Center (LFOC), Tactical Logistics (TACLOG), etc.) to static and on-the-move maneuver (mounted and dismounted) forces ashore. It is the only dedicated afloat Landing Force SATCOM.

Iridium Antenna and Infrastructure Installation. Iridium Antenna and infrastructure installation will enable the embarked landing force to transmit and receive Iridium phone calls and send or receive limited data directly from inside the Troop Operations compartment and/or LFOC. Iridium telephone provides an independent capability separate from the existing ship telephone system and networks. It provides communications in the event of shipboard power, telephone, network, or satellite outages. This provides dedicated, reliable access to commercial telephone, Defense Switch Network (DSN) and secure voice communications while maintaining situational awareness from operational spaces.

Tactical Blue force Situational Awareness, or Joint Battle Command – Platform (JBC-P). JBC-P enables Warfighters to share a common operating picture of the battlefield and allows Warfighters to exchange Position Location Information (PLI) and tracks, graphic overlays, tactical chat, and to gain access to terrain maps, logistics information and other data securely. Most importantly, JBC-P provides a joint, shared Situational Awareness (SA) display indicating the identification, location and movement of friendly and enemy units.

Landing Force Terrestrial Communications. Landing Force Terrestrial Communications provide non-satellite dependent, high throughput Line-of-Sight (LOS) and Beyond-Line-of-Sight (BLOS) means of command and control. This capability is especially critical in Anti-Access, Area-Denial (A2AD) environments. Terrestrial communications enable collaborative planning, ISR/FMV distribution and secure voice, video and data within the battle group. Terrestrial communications need to be maintained and upgraded to enhance C4ISR capabilities across the ARG/ATF, increase joint interoperability, and reduce traffic loads on shipboard SATCOM systems.

The different uses, configurations, and concepts over the ROMO, as well as their continuing evolution, require a naval and joint C4ISR architecture that is sufficiently adaptable and interoperable to meet the highly variable and changing needs that we will be called on to meet, especially including those operations with Coalition and Allied forces. For example, recent operations have shown that the ability to acquire mobile targets and deliver timely fires may depend on the integration of C4ISR capabilities that are supplied by other military forces or other Federal Agencies (NRO, Intelligence Agencies, U.S. Air Force and Special Operations Forces).

These and other naval and joint capabilities are being transformed through new operating concepts and systems collected under the construct of "network-centric warfare" which applies the integrating power of modern information technology to naval operations.

Afloat MAGTF C4ISR required capabilities support MAGTF C2/C4 and are in alignment with the U.S. Navy Information Dominance roadmap. Naval information dominance is predicated on:

1. Data-centric access to essential combat information.
2. Processing services and interfaces to support coordinated planning, execution decision making and dynamic battle management.
3. Fast, reliable and secure tactical networks that link platforms, sensors and weapons.
4. Assured Position, Navigation and Timing (PNT) services.

SEABASING CAPABILITY OBJECTIVES FOR POM 17

The Deputy Commandant for Combat Development and Integration (DC, CD&I) is the Marine Corps Seabasing Advocate. As such, DC, CD&I identifies seabasing required capabilities, deficiencies, issues, and solutions and advances them through various HQMC, Department of the Navy, Joint Staff and Department of Defense processes. Seabasing Integration Division (SID) is the staff organization within CD&I that advises and assists DC, CD&I on seabasing matters.

DC, CD&I chartered the Seabasing Operational Advisory Group (SOAG) to solicit input from the operating forces on seabasing capabilities, gaps, solutions and the integration of emerging concepts and capabilities. The SOAG is managed by SID and meets quarterly to consistently and deliberately develop and deliver the most effective seabasing solutions. In delivering this Annual Report, SID sought out and solicited operational input from various activities and forums. The outcomes and lessons learned from testing, modeling, analysis, demonstrations, war games, exercises, and operations are collated and presented here as the Seabasing Capabilities Section and are necessary to enhance the afloat MAGTF's capabilities and capacities.

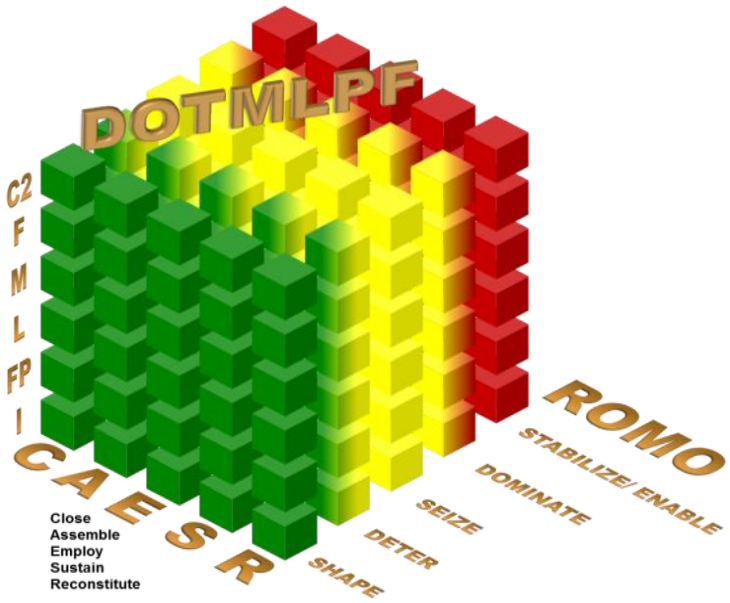
INPUTS. Seabasing's capabilities are derived from analytic assessments of past, present and future operations, exercises, Joint/Service level tasks and concepts, and a wide range of Navy and Marine Corps operational advisory groups and warfare improvement programs.

Expeditionary Force 21 Marine Corps Operating Concepts Marine Corps Capability Based Assessment Seabasing Operational Advisory Group MEU Operational Advisory Group Science and Technology Operational Advisory Group Prepositioning Operational Advisory Group Connector Summit	Expeditionary Warfare Improvement Program Amphibious Warfare Improvement Program Expeditionary Warrior Title 10 Wargame Exercise Ssang Yong 2014 Exercise Balikitan 2014 T-AKE 14.1 Native Fury 2014

SEABASING RELATED GAPS IN POM 17 MCEIP. Each year the Marine Corps conducts an enterprise wide capability based assessment and publishes a Marine Corps Enterprise Integration Plan (MCEIP). The MCEIP is designed to inform capability development and investment to ensure we get the best Marine Corps we can afford. Gaps in seabasing capabilities are identified through lessons learned, after action reports, needs statements, modeling and simulation, and war gaming. Solutions for seabasing gaps are developed using DOTMLPF (Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities) framework. Proposed solutions are introduced for investment consideration into the annual POM planning cycle of the Navy and Marine Corps.

Surface Assault during Amphibious Maneuver
Ship to Shore Connectors
Amphibious Force Sufficiency and Strategic Lift
C2 aboard Non-traditional Naval Platforms
AAV at Sea Recovery
Engage Direct Fire Targets during Amphibious Operations
Conduct MPF Operations
MEU SOF Integration
Spatial & Situational Awareness during Amphibious Operations
NSFS for MAGTF Operations
Proof Assault Lanes/Craft Landing Zones during Amphibious Operations
Seabasing Force Preparation
Seabasing Experimentation

SOLUTION DEVELOPMENT. Gaps are examined through multiple seabasing-related factors such as the seabasing lines of operation (Close, Assemble, Employ, Sustain, Reconstitute - CAESR), warfighting functions (C2, ISR, Fires, Maneuver, Logistics, Force Protection, Cyber), and across the range of military operations (ROMO).



FIVE SEABASING CAPABILITIES DEVELOPMENT FACTORS. Each seabasing capability is grounded in five Seabasing Capability Development Factors: *Marine Corps Tasks, Navy Tasks, Warfighting Functions, Seabasing Lines of Operation, and Joint Capability Areas.* These Seabasing Capability Development Factors are essential in ensuring the development and delivery of the right capability for mission accomplishment.

Marine Corps Tasks
Navy Tasks
Warfighting Functions
Seabasing Lines of Operation
Joint Capability Areas

TABLE OF CONTENTS

Seabasing Capability Objectives For POM 17

LHD 1/LHA 6 Class MMP (Maintenance and Modernization Periods) *Assault & Aviation Systems Integration*

BACKGROUND

LHD 1/LHA 6 Class Maintenance and Modernization Periods (MMP) consist of three phased shipyard periods (Pre-Mid-Life (ML), ML and Post-ML) over the 40 year expected service life. MMPs are critical to sustaining the ship and the amphibious force in general. Integrated plans identify maintenance burdens, engineer cost effective solutions, and provide prioritized warfare capability improvements. Modernization efforts will include aviation and assault systems integration and Command, Control, Communications, Computers, Combat systems and Intelligence (C5I) systems necessary for expeditionary operations. Projected integration plans to support Marine Corps aviation, specifically Joint Strike Fighter (F-35B) and Osprey (MV-22), are the Cornerstone and External Environment (EE) ship alterations. Changes to pace current and future threats include the ship self-defense system (SSDS) MK2 upgrades and Link 16 installation. Several communications and network upgrades (i.e. CANES) are planned over each period.

CAPABILITY OBJECTIVE

The LHD 1 class (8) and LHA 6 class (2) ships are capable of meeting global forward presence, power projection, and crisis response requirements. These ships provide significant heavy lift capacity, aviation facilities, and command and control. LHD 1 class ships can operate both displacement and non-displacement surface connectors and can conduct simultaneous vertical and surface connector operations. LHA 6 class optimizes the enhanced aviation capabilities of the future Aviation Combat Element (ACE) with an enlarged hangar deck, aviation maintenance facilities and increased aviation fuel capacity providing a warfighting dimension not previously available to the Joint Force Commander. Both the LHD 1 and LHA 6 class ships can deploy independently aggregated or disaggregated as part of the Amphibious Ready Group (ARG), and Amphibious Task Force (ATF) in support of Special Purpose Marine Air-Ground Task Forces (SPMAGTF), Marine Expeditionary Unit (MEU), and Marine Expeditionary Brigade (MEB) amphibious operations. The MAGTF's ability to execute the full spectrum of military operations is dependent on enhancements gained through these modernization periods.

IMPACT

MMP completion is critical for sustaining a modern expeditionary force and providing a qualitative edge over an opponent. Eleven big decks will be delivered by FY24 meeting the requirements for the Assault Echelon (AE). LHD 1 and LHA 6 classes provide the largest amphibious capacity to operate, project air power, and provide surface connectors combined with an embarkation capacity that offers significant heavy lift capability to support COCOM requirements in support of validated OPLANS, CONPLANS, and Theater Engagement Plans.

CURRENT STATUS

Only three of the eight LHD class ships are scheduled for MMP between FY16 and FY20. The remaining LHD class ships are scheduled outside the FYDP, but execution is at risk due to fiscal constraints. LHA 6 modernization will be incorporated in Post Shakedown Availability yard period scheduled between Q3FY15-Q1FY16. LHA 7 modernization will be incorporated in-line during construction.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)

1.12.1 Conduct Amphibious Ops
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)

1.5.2 Conduct Amphibious Ops
1.5.2.1 Conduct Ship-to-Shore or Ship-to-Objective Maneuver

WARFIGHTING FUNCTIONS

Command & Control
Fires
Maneuver
Logistics

SEABASING LINES OF OPERATION

Close
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)

2 Battlespace Awareness
3.1 Force Application, Maneuver to Engage, Insert, Influence, (Maritime)
4.1 Logistics, Deployment & Distribution, Move the Force, Sustain the Force
5 Command and Control

LHA 8: LHA(R) Flight 1

BACKGROUND

LHA 8 is a modified repeat of the LHA 6, which restores the well deck with capacity for two landing craft air cushion (LCAC). An additional feature is the reduced island which increases the aviation capacity of the flight deck while retaining the enhanced aviation support capabilities of LHA 6. LHA 8 will provide a functional replacement for the aging LHD 1WASP Class ships which begin to retire in FY29. This technologically advanced amphibious ship will be capable of providing forward presence and power projection as an integral part of joint, interagency, and multinational maritime expeditionary forces while exploiting 5th generation aviation assets like the Joint Strike Fighter.

CAPABILITY OBJECTIVES

The Marine Corps requires an Amphibious Assault Ship with multiple surface connector interface capability which was removed in LHA 6 and LHA 7. The Marine Corps requires a minimum inventory of 33 modern amphibious warships/operational platforms. The first LHA 8 is scheduled to deliver in FY24 achieving the minimum requirement of 11 big decks (three LHA, eight LHD). These ships must be capable of meeting global forward presence, power projection, and crisis response requirements. LHA 8 restores the capability to conduct simultaneous vertical and surface connector operations enabling independent, aggregate and disaggregated ARG, and ATF operations in support of SPMAGTF, MEU, and MEB, amphibious operations. The MAGTFs operational capability and embarkation capacity to execute the full spectrum of future military operations is dependent on a force sufficient to support emerging global operational requirements in the littorals and a surface interface for armored vehicle that cannot be transported by air operations.

IMPACT

LHA 8 is critical to sustain the attributes of a future expeditionary force. The evolution of the LHA design is necessary to leverage technology associated with a modern force and preserve a qualitative edge over opponents and integrate 5th generation aviation, fires, mobility and logistics. Sustained new construction of the LHA 8 every four years, as LHD 1 class ships retire, will ensure a sufficient force is operationally available to support the COCOM requirements. Reduced numbers of Amphibious Assault Ships would negatively impact our ability to carry out National Defense Strategies. The new LHA 8 design will provide the operational flexibility to conduct simultaneous vertical and surface employment of the MEU and MEB Assault Echelon in support of validated Operational Plans (OPLANS), Contingency Plans (CONPLANS), and Theater Engagement Plans.

CURRENT STATUS

LHA 8 is scheduled for procurement in FY17 (split funded in FY17 & FY18) and delivery in FY24. LHA 9 is scheduled for procurement in FY24.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)

1.12.1 Conduct Amphibious Ops
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)

1.5.2 Conduct Amphibious Ops
1.5.2.1 Conduct Ship-to-Shore or Ship-to-Objective Maneuver

WARFIGHTING FUNCTIONS

Command and Control
Fires
Maneuver
Intelligence
Logistics

SEABASING LINES OF OPERATION

Close
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)

2 Battlespace Awareness
3.1 Force Application, Maneuver to Insert, Influence, (Maritime)
3.2 Engagement
4.1 Logistics, Deployment & Distribution, Move the Force, Sustain the Force
5 Command and Control

LX(R) LSD Replacement

BACKGROUND
LX(R) (formerly LSD(X)) is expected to functionally replace LSD 41/49 Class ships for embark, transport, control, insert, sustainment, and extract of Marine Air-Ground Task Force elements and supporting forces by helicopters, landing craft, and amphibious vehicles.

CAPABILITY OBJECTIVES
On 14 October 2014, the Secretary of the Navy (SECNAV) approved a memorandum, co-signed by the Chief of Naval Operations (CNO), the Commandant of the Marine Corps (CMC), and the Assistant Secretary of the Navy for Research, Development, and Acquisition (ASN(RDA)) selecting a derivative of the LPD 17 hull form as the basis of the LX(R). The capabilities inherent in the LPD 17 derivative hull form provide LX(R) the required operational capabilities and embarkation capacities necessary to conduct operations in an increasingly complex environment. As a 25,000 ton hull form, LX(R) will possess greater troop capacity, flight deck/aviation capacity, fuel, medical, and C2 capabilities than the smaller 16,000 ton LSD 41/49 class ships. The increased hull size will accommodate future changes to afloat MAGTF operational requirements and capabilities. Operational risk was assessed and deemed acceptable in reducing LCAC capacity from four LCAC spots (LSD 41 class) to two LCAC spots in order to increase overall capability and capacity in other key areas. Balanced capabilities and capacities will enable LX(R) to operate across a broader range of military operations, while supporting operational objectives for independent, ARG/MEU, and ATF/MEB mission profiles. Substantial increases in aviation capabilities (operational and maintenance) offset the reduction in landing craft capacity, resulting in an equitable balance between ship aviation and surface interface capabilities.

IMPACT
In the annual Long-Range Plan for Construction of Naval Vessels for FY2015, the Navy has added advanced procurement funding in FY2019 to procure the lead LX(R) class ship in FY2020, one year later than in PB14. The LX(R) will replace the Dock Landing Ship (LSD 41/49 Class) when the remaining ships of this LSD Class begin to decommission in FY2027. LSD's project ~31% of the Marine Expeditionary Units combat power and their importance cannot be overemphasized. Failure to fully fund or execute LX(R) will impact the Marine Corps ability to maximize forward presence and crisis response.

CURRENT STATUS
The Analysis of Alternatives (AoA) concluded on 14 April 2014. The Capabilities Development Document (CDD) is scheduled to enter Joint Staffing in FY16. The first LX(R) platform is scheduled for procurement in FY20 and delivery in FY26 and achieve Initial Operating Status (IOS) in FY28.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.12.1 Conduct Amphibious Ops
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2 Conduct Amphibious Ops
1.5.2.1 Conduct Ship-to-Shore or Ship-to-Objective Maneuver

WARFIGHTING FUNCTIONS
Command and Control
Maneuver
Logistics

SEABASING LINES OF OPERATION
Close
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
3.1 Force Application, Maneuver to Insert, Influence, (Maritime)
4.1 Logistics

LPD 17 Aviation Maintenance Capability

BACKGROUND

Given the future operating environment detailed in Expeditionary Force 21, LPD 17 will continue to be called upon to provide the Geographic Combatant Commanders (GCC) with flexible deployment options and mission profiles relying heavily upon its embarked aviation capability for operational maneuver. Independent operations, split ARG/MEU operations and disaggregated ARG/MEU operations require greater aviation maintenance and self-sustainment capacity in order to execute specific mission sets autonomously from a larger aggregated naval task force over extended period of times. Based on lessons learned from Fleet reports, LPD 17 requires specific refinements in aviation maintenance and Aviation Consolidated Allowance List (AVCAL) storage in order to sustain independent, split and disaggregated operations over an extended period.

CAPABILITY OBJECTIVES

On a typical ARG/MEU deployment, 4-5 type/model/series aircraft are embarked aboard the LPD 17 from the MEU ACE. Some of these aircraft have traditionally been embarked aboard the LHA or LHD. Due to the shift in aircraft assignment from the LHD 1 to the LPD 17, a portion of the LHD 1 maintenance Pack Up Kit (PUK) and AVCAL must accompany the aircraft to the LPD 17. The existing LPD 17 configuration lacks sufficient secure storage capacity to support intermediate (I) level maintenance associated with independent and disaggregated flight operations. This secure stowage capacity shortfall limits PUK size. In addition, LPD 17 does not have a sufficient quantity of dedicated I-level maintenance workspace to support embarked aviation maintenance and supply detachment. This shortfall negatively impacts aircraft readiness and availability.

IMPACT

LPD 17 aviation maintenance and storage capacity will provide dedicated workspaces for intermediate maintenance support personnel and improve availability of aircraft parts, improving turnaround times, and increase aircraft readiness. Higher aircraft readiness directly supports the conduct of independent operations, split ARG/MEU operations and disaggregated ARG/MEU operations.

CURRENT STATUS

LPD 17 is certified Level I, Class 1 for all USMC type model series aircraft operational level maintenance.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)

1.12.1	Conduct Amphibious Ops
1.12.5	Conduct Seabasing Ops
1.3.3.3.1	Conduct Aviation Ops from Expeditionary Seabased Sites
4.2.1	Conduct Aviation Maintenance Ops

UNIVERSAL NAVAL TASK LIST (UNTL)

1.1.2.3.3	Conduct Flight Ops
1.5.2	Conduct Amphibious Ops
1.5.2.1	Conduct Ship-to-Shore or Ship-to-Objective Maneuver
4.3	Repair and Maintain Equipment

WARFIGHTING FUNCTIONS

Fires
Maneuver
Logistics

SEABASING LINES OF OPERATION

Close
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)

3.1	Force Application, Maneuver to Insert, Influence, (Maritime)
4.1	Deployment & Distribution, Move the Force; Sustain the Force
4.3	Maintain Equipment

MPF MLP with Core Capability Set (w/CCS)

BACKGROUND
The Mobile Landing Platform (MLP)with core capability set (MLP w/CCS) is based on commercial float-on/float-off (FLO/FLO) technology to provide a surface interface between large medium-speed roll-on/roll-off (LMSR) prepositioning ships and landing craft air cushion (LCAC) surface connectors. The MLP w/CCS is a major component to the Navy-Marine Corps strategy for enhancing Maritime Prepositioning Squadrons (MPSRONs) throughput capability by expanding operating environments and access opportunities. The MLP w/CCS is approximately 785 feet in length with a beam of 165 feet—more than a third wider than most ships—making it an extremely stable platform for seabased operations. MLPs 1 and 2 will provide an elevated vehicle staging area and three LCAC lanes (barriers, lighting, wash-down, and fueling services) to allow for transfer of equipment at sea in non-anchorage depths and delivery from over-the-horizon through restricted access environments.

CAPABILITY OBJECTIVES
Seabasing Enabled (SE) platforms conduct at-sea closure, arrival and assembly, employment, persistent sustainment, recovery, and reconstitution of the MAGTF from MPF platforms in support of global expeditionary seabasing operations. It is capable of operational impact early and is self-sustaining in an expeditionary environment.

IMPACT
MLP w/CCS will provide the GCCs and Joint Force Commanders a highly flexible operational and logistics support capability to meet widely varied expeditionary missions.

CURRENT STATUS
USNS Montford Point (MLP 1), the first mobile landing platform class ship, has successfully completed construction of her core capability set components and is currently undergoing initial operational testing and evaluation (IOT&E). MLP 1 is expected to be fully operational in fiscal year 2015. USNS John Glenn (MLP 2) a second MLP w/CCS, is scheduled to be available for tasking in late FY15. USNS Lewis B. Puller (MLP 3), a third MLP will be configured in the afloat forward staging base (AFSB) variant with an anticipated delivery in FY15.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.12.3 Conduct Prepo Ops
1.12.5 Conduct Seabasing Ops
4.1.2.4 Conduct Distribution Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2.2.3 Buildup the Force

WARFIGHTING FUNCTIONS
Maneuver
Logistics

SEABASING LINES OF OPERATION
Close
Assemble
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
4.1 Logistics, Deployment & Distribution, Move the Force, Sustain the Force

MPF Seabasing Enabled (SE) Modular Block Upgrades

BACKGROUND
Seabasing Enabled platforms are being introduced into the MPF Program: Large Medium-Speed Roll-on/Roll-off (LMSR), Mobile Landing Platform with core capability set (MLP w/CCS) (FY15), and dry cargo/ammunition (T-AKE). The LMSR has an excess of 300,000 square feet capacity, carries vehicles, equipment, 20-foot equivalent unit (TEU) containers, and is equipped with a helicopter landing spot, all used to support maritime prepositioning missions across the range of military operations (ROMO). The T-AKE possesses over 900,000 cubic feet of cargo space and has both a helicopter operating spot and hanger available in support of operations across ROMO. The MLP w/CCS will complete the introduction of Seabasing Enabled platforms to the MPSRONS in FY15.

CAPABILITY OBJECTIVES
Interoperability with a full range of connectors available in the seabase will increase throughput, enhancing employment, selective offload, and sustainment capabilities. Expanding MLP w/CCS interface with multiple type displacement craft and LCAC will provide greater flexibility. The MLP w/CCS will not be limited to air cushioned craft and will be capable of using the full range of connectors available from Navy, Army, and coalition forces. Across the board interoperability with vertical connectors that operate in the seabase will improve platform interface, enhance employment, allow selective offload, and sustainment capabilities ashore.

IMPACT
Interoperability is the key to seabasing. The lack of maximum interoperability between platforms and connectors, both vertical and surface, within the seabase is detrimental to future maritime operations. Enhanced surface and vertical connector interoperability will improve the flexibility of all the platforms. Seabasing operations cannot achieve its full mission employment capability without enhancements to platform capabilities. Without crane enhancements, there are limitations to conducting LO/LO operations with displacement craft due to sea state. Vertical connector support to the MAGTF is limited due to a lack of consistent aircraft certification across all platforms. Additionally, a lack of interoperability with displacement craft further exacerbates limited berthing for embarked personnel, which could be mitigated through platform integration.

CURRENT STATUS
MLP 1 IOT&E is underway through October 2014MPF MLP interoperability with displacement craft is a key Seabasing Enabled Integration Objective.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.12.3 Conduct Prepo Ops
1.12.5 Conduct Seabasing Ops
4.1.2.4 Conduct Distribution Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2.2.3 Buildup the Force

WARFIGHTING FUNCTIONS
Maneuver
Logistics

SEABASING LINES OF OPERATION
Close
Assemble
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
4.1.1 Logistics, Deployment & Distribution, Move the Force
4.1.2 Logistics, Deployment & Distribution, Sustain the Force

MPF SEABASING ENABLED (SE) MODULAR BLOCK UPGRADES

as of August 2014

ALL OF THESE MPF SE MODULAR BLOCK UPGRADES ARE UNFUNDED (UFRs) and all cost estimates are ROMs (rough order of magnitudes) as originally provided in study results.

REQUIREMENT	PLATFORM	ESTIMATED COST ($M)
SOF/SPMAGTF: Aviation Ordnance Magazine *	T-AKE	$0.5
Plug and Play C2 */***	T-AKE/MLP/LMSR/JHSV	$2
JHSV At-sea Transfer to MLP in SS3 */**/***	JHSV	$5
Tilt/Rotary Wing Aircraft Certifications Level II **/***	MLP/LMSR/T-AKE	$3.7
Organic Connector basing on MLP */**/***	MLP	$1.4
LMSR Crane Upgrade to SS3 with COTS Crane */**/***	LMSR	$2
T-AKE Cranes Upgrade to SS3 with COTS Crane */**/***	T-AKE	$2
MLP Cranes Upgrade to 25K lbs for LO/LO Ops */**	MLP	$1
MLP Cranes Upgrade to SS3 with COTS Crane **/***	MLP	$2
MLP Medium Berthing Barge (298 PAX) */***	MLP	$35
MLP Large Berthing Barge (445 PAX) */***	MLP	$40
MLP Medical Support Module (Level II care/ERSS) */***	MLP	$0.6
MPF Dynamic Positioning *	LMSR/T-AKE	Unknown
MLP Underway Replenishment */**	MLP	$3
MLP At-sea Transfer in SS3 (Surface Craft Ramp Interface) */**/***	MLP	$2.1
MLP At-sea Transfer in SS3 (Advanced Mooring System) */**/***	MLP	$7
RRDF-LCAC Interface */***	INLS	Unknown
Weather Deck to Flight Deck Access Ramp **	Walton Class LMSR	$0.7
INLS Embarkation/Interface */**/***	MLP	Pending
MPF Utility Boat **/***	T-AKE/MLP	Pending
ABLTS Interface **	T-AKE	Pending

THE FOLLOWING STUDIES ARE TIED TO THE REQUIREMENTS:

* *Maritime Prepositioning and Other Platform Enhancements in Support of Confronting Irregular Challenges*, Oct 2011

** *Operationalizing MLP, LMSR, JHSV and T-AKE*, Sep 2013

*** *Marine Corps Prepositioning Capabilities Based Assessment*, May 2013

Joint High-Speed Vessel (JHSV)

BACKGROUND
The JHSV bridges the gap between low-speed sea lift and high speed airlift by transporting personnel, equipment, and supplies over intra-theater distances with access to littoral offload points including austere, minor and degraded ports.

CAPABILITY OBJECTIVES
The JHSV is a non-combatant, and is designed to operate in permissive environments. Key capabilities are

1) Transport 600 short tons of cargo, combat-loaded vehicles, and supplies for 1200 nautical miles at 35 knots,
2) Off-load pier side in austere environments without reliance on shore infrastructure or to a roll off/roll-on discharge facility (RRDF) in sea state (SS)1,
3) 20,000 ft² mission bay/cargo space to support a combat-loaded M1A2 tank,
4) 312 airline seats and 104 permanent berths for embarked troops,
5) Launch/recover small boats (11 meter RHIBs) with its organic 20-ton crane, and
6) Flight deck accommodates H-60, H-1, and H-53 aircraft operations. It can also accommodate vertical replenishment (VERTREP) – including with the MV-22.

IMPACT
The JHSV enables rapid closure of forces to the seabase from advanced and intermediate bases, maneuver of combat ready forces in acceptable threat environments to in-theater austere or degraded ports, and at-sea logistics movement from afloat prepositioning force (APF) and maritime prepositioning ships (MPS). JHSV can be used to support theater security cooperation, HA/DR, non-combatant evacuation, and other missions.

CURRENT STATUS
JHSV is a fully funded program to build 10 JHSVs (4 of which have already been delivered). The Office of Naval Research (ONR) has funded an Interface Ramp Technology (IRT) project designed to enable at-sea interface with an RRDF and Mobile Landing Platform (MLP) in a 1 to 4 feet significant wave height (SWH) in sea state 3 (SS3). The IRT static and dynamic testing was completed in May and the project is being closed out. The prototype ramp will likely be preserved/stored with relevant technologies gleaned from its development used to potentially inform future ramp designs.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.12.5 Conduct Seabasing Ops
4.1.2.4 Conduct Distribution Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2.2.3 Buildup the Force

WARFIGHTING FUNCTIONS
Maneuver
Logistics

SEABASING LINES OF OPERATION
Close
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
3.1 Force Application, Maneuver to Engage, Insert, Influence, (Maritime)
4.1 Logistics, Deployment & Distribution, Move the Force, Sustain the Force

AAV and ACV Launch Capability

BACKGROUND

In the summer of 2013, the Marine Corps began investigating JHSV's ability to launch AAV and ACV. Per USMC's request, NAVSEA conducted a quick-look examination of potential modifications to the JHSV ramp using ONR's Interface Ramp Technology (IRT) initiative design to determine the technical feasibility of launching AAVs. Three options were identified: 1) design a stand-alone platform to be placed under the ramp foot using JHSV's crane, 2) design and attach a buoyancy apparatus to the foot of the ramp, or 3) design a simple removable ramp that could be installed while at sea.

The AAV/ACV decisions alluded to in the Connector Strategy section prompted a re-examination of the LCAC aft ramp design to improve upon its capability to launch AAVs. The design was tested and the launch procedures codified in the late 1980s. In June 2014, Naval Surface Warfare Center Panama City (NSWCPC) began work to identify potential engineering change proposals for the LCAC aft ramp. Information sharing between SID, the Marine Corps Systems Command, NAVSEA, and NSWC-PC includes ACV alternatives configurations/characteristics to explore the feasibility of launching ACVs from an LCAC as well. This is a two year project that requires continued funding to develop and test a potential modified aft ramp in Phase II.

CAPABILITY OBJECTIVES

The AAV will remain the Marine Corps' surface amphibious assault ship-to-shore movement platform for the MAGTF through 2035. With the increased stand-off distances associated with near-peer A2/AD capabilities, landing craft and JHSV provide the opportunity to complement and enhance our ability to project the leading elements of the surface assault from over-the-horizon to a line-of-departure commensurate with the swim range of the AAV, and perhaps the ACV version 1.2. As such, we will continue to work with the Navy to pursue this capability.

IMPACT

These initiatives are being carried out so as not to impede the current POR for JHSV and SSC. However, the *SC(X) Analysis of Alternatives (AoA) Decision 3 (choose alternative)* brief to the Executive Steering Committee in May indicated that incorporation of this capability into a new design SC(X) would require minor design and specification changes with minimal cost impact. We envision this will become a threshold capability requirement that will be articulated in the development of the SC(X) CDD and it will be further developed during the SC(X) preliminary design.

CURRENT STATUS

ONR's IRT demonstrator has successfully completed motion testing. Options for final disposition of IRT are storage at the Aberdeen Test Center (ATC), MD, or potential reassembly for use to support AAV/ACV testing at ATC's 'amphibious warfare pond, although no funding has been identified to accomplish that option. OPNAV N42 and NAVSEA are developing a plan to assess the current JHSV ramp to determine if it is capable of at-sea transfers in higher seas than its design capacity (0.1m SWH). This data should inform potential future ramp designs to pursue accommodation of AAV/ACV launches. In Phase I of its project, NSWCPC is conducting hydrodynamic modeling and simulation to determine launch characteristics of the AAV and ACV candidate vehicles and defining potential ramp extension geometrics in an AoA. Concurrently, work is underway to develop the Phase II test plan.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)

1.12.1 Conduct Amphibious Ops
1.12.5 Conduct Seabasing Ops
4.1.2.4 Conduct Distribution Ops

UNIVERSAL NAVAL TASK LIST (UNTL)

1.5.2 Conduct Amphibious Ops
1.5.2.1 Conduct Ship-to-Shore or Ship-to-Objective Maneuver
1.5.2.2.3 Buildup the Force

WARFIGHTING FUNCTIONS

Maneuver

SEABASING LINES OF OPERATION

Close
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)

3.1 Force Application, Maneuver to Insert, Influence, (Maritime)

LCAC (SLEP) & Sustainment

BACKGROUND
The LCAC Service Life Extension Program (SLEP) program began in 2000 and is planned to be completed in FY18. Coupled with the LCAC (post-SLEP) sustainment effort, it extends the service life of 72 craft from 20-30 years and helps minimize the non-displacement landing craft quantity gap until/while the LCAC-100 class craft produced in the Ship-to-Shore Connector (SSC) program is introduced into the fleet.

CAPABILITY OBJECTIVES
Fully fund LCAC (SLEP), LCAC Fleet Maintenance Program (FMP), and LCAC (SLEP) extensions to minimize pending craft gap. The SLEP program is designed to upgrade engines and refurbish rotating machinery for more power along with the outfitting of a deep skirt to reduce maintenance and increase performance and replacement/upgrade of C4N equipment.

IMPACT
The pending non-displacement landing craft gap will cause degradation in the ability to conduct amphibious operations. LCAC (SLEP), the FMP, and SLEP extensions are essential to minimize LCAC gap as LCAC-100s enter service. LCAC (SLEP) and sustainment were included within # 2 (surface connectors) on the 2013 AMW Integrated Prioritized Capability List (IPCL).

CURRENT STATUS
72 craft are to undergo SLEP from the original 91 produced. 16 SLEP craft remain with a build profile of 2 left in FY14, 2 in FY15 and 4 per year from FY16 - FY18. Planned SLEP extensions for select craft can add 5 to 7 more years of service life to further minimize gap.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.12.1 Conduct Amphibious Ops
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2 Conduct Amphibious Ops
1.5.2.1 Conduct Ship-to-Shore or Ship-to-Objective Maneuver

WARFIGHTING FUNCTIONS
Maneuver
Logistics

SEABASING LINES OF OPERATION
Close
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
3.1 Force Application, Maneuver to Engage, Insert, Influence, (Maritime)
4.1 Logistics, Deployment & Distribution, Move the Force, Sustain the Force

Ship-to-Shore Connector (SSC) (LCAC-100)

BACKGROUND
The SSC program of record will produce the LCAC-100 class non-displacement landing craft to replace the current fleet of legacy LCAC and LCAC (SLEP) with an Initial Operational Capability (IOC) in 2020 and a full Operational Capability (FOC) forecasted for 2029. The LCAC-100 will provide more powerful engines, increased reliability, advanced navigation and engineering control systems, and more payload capacity to maneuver troops and equipment from ships to over-the-shore within the littorals. SSC was #2 on the 2013 AMW Integrated Prioritized Capability List (IPCL).

CAPABILITY OBJECTIVES
A ship to over-the-shore non-displacement landing craft with increased payload and reliability beyond the legacy LCAC and LCAC (SLEP) is required to support MAGTF maneuver in the littorals. The LCAC-100's capabilities include: (1) 74 ton payload capacity to carry an M1A1 tank with track width mine plow, (2) operational environment of a significant wave height of 4.1 feet with an ambient temp of 100 degrees F, (3) main cargo (level) deck ~50 feet x 24 feet wide, strengthened to accommodate heavier footprints (mobile loaded MTVRs) outboard of center-line, and (4) increased automation/human-system interfaces to allow for a pilot/copilot cockpit configuration.

IMPACT
Full funding is critical to minimize the gap in the Required Operational Capability/Projected Operational Environment (ROC/POE) quantity of 72 craft needed for surface ship-to-over-the-shore and over-the-horizon littoral maneuver as legacy LCAC and LCAC (SLEP) craft are retired when reaching the end of planned extended service life.

CURRENT STATUS
The economic minimum production quantity in the acquisition strategy is 5; program build plan identifies an option to increase production to 8 or more per year.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.12.1 Conduct Amphibious Ops
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2 Conduct Amphibious Ops
1.5.2.1 Conduct Ship-to-Shore or Ship-to-Objective Maneuver

WARFIGHTING FUNCTIONS
Maneuver
Logistics

SEABASING LINES OF OPERATION
Close
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
3.1 Force Application, Maneuver to Engage, Insert, Influence, (Maritime)
4.1 Logistics, Deployment & Distribution, Move the Force, Sustain the Force

LCU Sustainment & Surface Connector (X)-Recapitalization

BACKGROUND
The LCU 1600 class landing craft provides the heavy payload capacity and independent operations capability necessary to ensure surface movement and crisis response requirements can be met across the ROMO. These craft were built for a service life of 25 years; however, the fleet age currently averages over 40 years. Maintenance and equipment obsolescence are increasing the challenges associated with the LCU sustainment program while the class continues to experience a high demand signal.

CAPABILITY OBJECTIVES
A heavy lift displacement craft to maintain the necessary balanced landing craft fleet required for surface movement and maneuver in the littorals. The planned SC(X) program will recapitalize the LCU 1610 class capabilities that provide:

1) Simultaneous transport of personnel and cargo of up to 400 passengers without modification,
2) Persistence (10 day/1,200 nautical miles), forward staging, small boat platform, dive support, surveillance (LCAC limited to 12 hours, well deck required),
3) Perform operations in confined or debris-congested waterways; surf salvage; Theater Security Cooperation (TSC), building partnerships, and
4) Key component of logistics-over-the-shore operations via interface with roll-on-roll-off discharge facility (RRDF), Improved Navy Lighterage System (INLS), and Army Modular Causeway System (MCS).

Also critical is payload capacity for two M1A1 tanks with track-width mine plow (TWMP) and the ability to provide intra-theater/shore-to-shore maneuver of up to 170 short tons of vehicles, equipment, and sustainment. The current Required Operational Capabilities (ROC) and Projected Operational Environment (ROC/POE) quantity of 32 is consistent with the high demand stemming from its flexibility and value for ARG/MEU and independent amphibious warship deployments. LCU sustainment & SC(X) were prioritized within #2 on the 2013 AMW Integrated Prioritized Capability List (IPCL).

IMPACT
LCU Sustainment and SC(X) programs require funding to retain the heavy lift and flexible displacement craft capability needed to fulfill amphibious and expeditionary operational requirements.

CURRENT STATUS
Even with the oldest active LCU being more than 50 years old, the ongoing sustainment program is designed to retain the ROC/POE inventory at 32 craft; however, escalating costs makes this a challenge going forward. The SC(X) AoA is complete and the final report is pending, with a gate 2 naval capabilities board forecast in 4th quarter FY14 to approve the AoA recommended materiel alternative.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.12.1 Conduct Amphibious Ops
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2 Conduct Amphibious Ops
1.5.2.1 Conduct Ship-to-Shore or Ship-to-Objective Maneuver

WARFIGHTING FUNCTIONS
Maneuver
Logistics

SEABASING LINES OF OPERATION
Close
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
3.1 Force Application, Maneuver to Engage, Insert, Influence, (Maritime)
4.1 Logistics, Deployment & Distribution, Move the Force, Sustain the Force

Lighter, Amphibious Resupply, Cargo (LARC)-V

BACKGROUND
The LARC-V (5-ton) is a single screw, four-wheeled, self-propelled amphibian, powered by a diesel engine. Its general mission is to provide the Beach Party Team (BPT) with the capabilities to salvage disabled landing craft (including raising ramps, towing, and dewatering) and transport personnel and cargo between the beach and afloat landing craft. It is also used to determine the best/safest offload point for the LCU. Each BPT is equipped with two LARC-V.

CAPABILITY OBJECTIVES
The LARC capability requirements include: surf and beach zone salvage, boat lane preparation, landing craft ramp checks, surf zone rescue, recovery of broached landing craft, and personnel transport and equipment transport. A recapitalized amphibian will provide for improved maintainability and reliability/availability in support of MPF and amphibious operations. The Initial Capabilities Document (ICD) is currently being developed for a Navy Amphibious Surf Zone Craft that will provide a material solution that balances the needs of the fleet against practical design concepts and overall cost.

IMPACT
The LARC enables safe and efficient conduct of landing, throughput, and retrograde operations near shore and through the surf zone.

CURRENT STATUS
The aging LARC-V inventory, built over 45 years ago has undergone a SLEP (LARC-V A1/A2) that included new engines and drive trains, improved tow bits and padeyes, replacement deck hatches and re-configured stowage areas. LARC inventory: 10 support MPF and 28 are in support of the ARG/MEU deployments.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.12.1 Conduct Amphibious Ops
1.12.5 Conduct Seabasing Ops
4.1.2.4 Conduct Distribution Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2.2.3 Buildup the Force

WARFIGHTING FUNCTIONS
Maneuver
Logistics

SEABASING LINES OF OPERATION
Close
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
4.1 Logistics, Deployment & Distribution, Move the Force, Sustain the Force

Connector Strategy

BACKGROUND

This year's decisions concerning the Amphibious Assault and Amphibious Combat Vehicle AAV & ACV) programs and the EF-21 concept approval have created new challenges for ship-to-shore movement and littoral maneuver methodologies. A three-day Connector Summit was held in March to discuss with naval engineers, program sponsors, USN and USMC stakeholders, and U.S. and foreign industry representatives the realm of the possible with respect to capability enhancements to better "connect the connectors" and concepts that may have the potential to inform a future "connector after next" initiative. A follow-on to the Summit was the posting of a request for information (RFI) on the FedBizOpps website to petition industry for connector concept white papers to inform continuing development of our connector strategy.

CAPABILITY OBJECTIVES

The current programs of record (POR) for LCAC (SLEP), FMP, and SLEP extensions, the SSC, LCU sustainment, and SC(X) are the underpinnings of the strategy. During the 4 Feb 2014 program update by OPNAV N95 to CMC, CMC stated that any examination of potential future connector capabilities will not interfere with current POR. As such, the connector strategy will include the validated requirements met by the current POR and consider potential options stemming from analysis of the responses received from the Connector RFI.

IMPACT

Leveraging the momentum of the Connector Summit, the Connector Strategy will provide Navy-Marine Corps-wide baseline information on the connector PORs, and the potential initiatives gleaned from analysis of the Connector RFI submissions and further ship-to-shore movement analysis of EF-21 requirements.

CURRENT STATUS

SID, Navy Surface Warfare Center-Panama City Division and ONR Codes 30 and 33 are examining industry submissions to the RFI to target potential S&T ideas or more mature concepts that might lead to a new initiative to provide a complementary connector capability.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)

1.12.5 Conduct Seabasing Ops
4.1.2.4 Conduct Distribution Ops

UNIVERSAL NAVAL TASK LIST (UNTL)

1.5.2.2.3 Buildup the Force

WARFIGHTING FUNCTIONS

Maneuver
Logistics

SEABASING LINES OF OPERATION

Close
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)

3.1 Force Application, Maneuver to Engage, Insert, Influence, (Maritime)
4.1 Logistics, Deployment & Distribution, Move the Force, Sustain the Force

MV-22B Aviation Certification

BACKGROUND
MV-22 is the medium lift aircraft replacing the CH-46E. It is vital for long range, medium lift, multi-missions, and is capable of conducting combat operations, combat support, combat service support, and special operations missions. MV-22s are a critical component of the Marine's vertical connector strategy for ship-to-ship, ship-to-shore, and ship-to-objective maneuver.

CAPABILITY OBJECTIVES
The Marine Corps requires the MV-22 to be certified on all expeditionary ship classes to include L-Class amphibious warfare ships: LHD, LHA, LPD, LSD, LX(R); MPF ships: T-AK, T-AKR, T-AKE, MLP; and support ships T-AVB, T-AH, LCC, JHSV.

IMPACT
Integration of this capability provides commanders significant flexibility through operational reach, speed, and endurance supporting forces afloat/ashore. Without MV-22 certifications CCDRs are limited in employment options necessary for the projection and sustainment of forces ashore in an A2AD maritime environment. MV-22 certification on all expeditionary ship classes will increase the flexibility and operational reach of the MAGTF.

Current Status
See MV-22B Aviation Certification Status List Table below for current status. This table is the HQMC Prioritized list as of August 2014 and reflects the current progress that NAVAIR has taken to certify all ships to include Combatant ships for MV/CV-22 operations.

SHIP CLASS	CAPABILITY	NOTES
LHD 1	L, V	Working Structural Mods on certain spots for unmitigated Ops
LHA 6	L, V	Will be treated as an in-service ship; SCD in development
LHA 7	L, V	Attempting to modify flight deck designs prior to construction
LPD 17	L, V	Structural Mod investigation underway
T-AH 19	L, V	Modification designs complete and in place for implementation
T-AKE 1	L, V	
T-AVB 3	L, V	Deck heating report issued; awaiting AVCERT analysis funds
LCC 19	L, V	Awaiting deck strength funding; VERTREP certification complete
T-AKR 300	L, V	VERTREP Certification issued; L/R currently under investigation
T-AKR 310	L, V	VERTREP Certification issued; no L/R
MLP 1	L, V	V-22 Ops on MLP AFSB (MLP 3-4) currently under investigation
T-AK 3008	L, V	VERTREP Certification issued; no L/R
T-AK 3017	L, V	
JHSV	V only	Interim AVCERTS issued for Class 5 VERTREP on JHSV 1-2
AS 39	V only	III/5/2 VERTREP issued for both hulls
CG 47	V only	PMA-275 researching L/R on these hulls
DDG FLT I	V only	PMA-275 researching L/R on these hulls
DDG FLT II/IIA	V only	PMA-275 NAVY IPT has funded FLT IIA Deck Strength study
DDG 1000	L, V	
FFG 7	V only	PMA-275 researching L/R on these hulls
LCS I	V only	Currently Certifying Flight Decks for Class 5 VERTREP
IX 514	V only	Decommissioned
LCS II	V only	Requires Thermal Analysis for VERTREP (Aluminum flight deck)
T-AK 32	V only	
T-AO 187	L, V	VERTREP Certification issued; no L/R
T-AOE 6	L, V	VERTREP Certification issued; no L/R
T-AK 3005	L, V	Ships moved to ROS; AVCERT not renewed
T-AK 3015	L, V	Ships moved to ROS; AVCERT not renewed

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.12.1 Conduct Amphibious Ops
1.12.3 Conduct Prepositioning Ops
1.12.5 Conduct Seabasing Ops
1.3.3.3.1 Conduct Aviation Ops from Expeditionary Seabased Sites

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2 Conduct Amphibious Ops
1.1.2.3.3 Conduct Flight Ops

WARFIGHTING FUNCTIONS
Fires
Maneuver
Logistics

SEABASING LINES OF OPERATION
Close
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
3.1 Force Application, Maneuver to Engage, Insert, Influence, Secure (Air)
4.1 Logistics, Deployment & Distribution, Move the Force, Sustain the Force

L=Launch/Recovery
V=VERTREP

IN PROGRESS
NOT STARTED
COMPLETED
DECOMMISSIONED OR ROS

Ship Alterations to Support STUAS

BACKGROUND
Small Tactical Unmanned Aircraft System (STUAS) provides persistent maritime and land-based tactical reconnaissance, surveillance, and target acquisition (RSTA) data collection and dissemination capabilities to the warfighter. The air vehicle's open-architecture configuration can integrate new payloads quickly and can carry sensor payloads. The system consists of air vehicles, ground control stations and multi-mission payloads that will provide intelligence, surveillance, reconnaissance and communications relay for up to 12 hours per day continuously with a short surge capability for 24 hours a day. Payloads include day/night full-motion video cameras, infrared marker, laser range finder, communications relay package and Automatic Identification System receivers. Ancillary equipment includes launch/recovery mechanisms, tactical communications equipment and spares.

CAPABILITY OBJECTIVES
STUAS installation aboard the LHA(R) flight 0 and flight 1, LHD, LPD 17, LX(R) and LSD 41/49 platforms is required in order to provide afloat persistent long range ISR capability in support of MAGTF missions across the range of military operations. Amphibious ships mission profiles include ATF/MEB, ARG/MEU disaggregated or split ARG/MEU and independent deployments.

IMPACT
Inability to provide persistent maritime ISR and RSTA to embarked commanders in support of the full range of military operations aboard amphibious ships and COCOM persistent presence and crisis response requirements.

CURRENT STATUS
STUAS installations are currently planned for all LPD 17 class ships. Additional funding for installations on LPD must be identified. Planned for LHA(R), but not funded. Back fitting LHD 1 class is neither planned nor funded.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)

1.12.1	Conduct Amphibious Ops
1.12.5	Conduct Seabasing Ops
1.3.3.3.1	Conduct Aviation Ops from Expeditionary Seabased Sites

UNIVERSAL NAVAL TASK LIST (UNTL)

1.5.2	Conduct Amphibious Ops
1.5.2.1	Conduct Ship-to-Shore or Ship-to-Objective Maneuver

WARFIGHTING FUNCTIONS
Command and Control
Fires
Maneuver
Logistics
Intelligence
Protection
Cyber

SEABASING LINES OF OPERATION
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)

2.2.2	Battle Space Awareness & Collection
3.1	Force Application, Maneuver to Insert, Influence, (Maritime)
5.5.2.2	Command & Control

Indoor Simulated Marksmanship Trainer (ISMT)

BACKGROUND
The Indoor Simulated Marksmanship Trainer (ISMT) is a three dimensional simulation trainer for indoor instruction in basic and advanced marksmanship, shoot/no-shoot judgment, combat marksmanship, and weapons employment tactics. The trainer consists of an Instructor Station, audio/visual system, and weapons firing position. Each firing position is capable of operating simulated weapons that include AT4, M2 (.50 cal), M9, M16A4, M16A2 fully sensored, M240G, M203, MK19, MP5, SAW, M870 12 gauge shotgun, SMAW, M224 60mm mortar, M252 81 mm mortar, M4A1, SRAW (Predator), and joint services combat shotgun.

CAPABILITY OBJECTIVES
The installation of ISMT on all amphibious platforms (LHA, LHD LPD 17 and LX(R)) in order to sustain combat readiness for embarked troops.

IMPACT
The installation of ISMT on all amphibious platforms will increase marksmanship proficiency during extended periods of embarkation. ISMT provides a simulated mission platform for mission rehearsals. ISMT use also decreases live ordnance expenditures.

CURRENT STATUS
ISMTs have been installed on LPDs 17-21. Funding has been allocated for LPDs 24-25 (the LPD 24 install is scheduled for completion during October 2014). No funding solution has been identified for LPDs 22-23. Ship Change Document (SCD) is pending. Funding has not been allocated and ship change documents have not been generated to support ISMT installs on non-LPD 17 platforms.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.8.2 Conduct Precision Marksmanship
1.12.1 Conduct Amphibious Ops
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2 Conduct Amphibious Ops

WARFIGHTING FUNCTIONS
Fires

SEABASING LINES OF OPERATION
Assemble
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
1.2.1 Training
3.2 Engagement

Lithium Ion (Li-Ion) Battery

BACKGROUND
Future MAGTF equipment will require stowage and maintenance of large format Lithium Ion (Li-Ion) batteries. The unique nature and hazards associated with large format lithium batteries requires specifically designed infrastructure, supporting facilities, and supply procedures to properly maintain such batteries and contain any battery malfunctions.

CAPABILITY OBJECTIVES
The Marine Corps requires the capability to transport, stow, maintain, and operate with large format Li-Ion batteries and associated chargers onboard amphibious warfare and Maritime Prepositioning Force (MPF) ships. Marine Corps units that embark lithium Ion batteries aboard L-Class, JHSV, and MPF ships must have the proper testing/validation of battery specifications and also ensure they will have adequate storage and charging facilities once embarked.

IMPACT
Lithium ion batteries pose a significant hazard to US Navy ships which must be accounted for in storage and containment system design. These batteries can violently vent or rupture, releasing large quantities of combustible, toxic or acidic vapors and aerosols that pose a risk to personnel, equipment, and ships. Additionally, a small explosion can occur due to manufacturing defects in battery insulating membranes which can cause overheating of the battery case creating very high temperature carbon particles to rapidly release. This can result in a major fire or explosion and the release of large quantities of toxic and acidic gases with heavy smoke. Inability to properly store li-ion batteries aboard amphibious ships and MPF ships can limit the ability of embarked forces to fully deploy and employ from naval shipping.

CURRENT STATUS
Naval Sea Systems Command (NAVSEA) is developing a shipboard Hazard Mitigation Suite for large format lithium batteries to maintain and contain the hazards associated with these batteries. Identification of projected quantities and configurations of batteries and chargers to be embarked are required in order to define the number/location of storage and charging lockers. In addition, this information will be used to determine volumetric stowage (i.e., cubic feet) requirements in order to ensure new lithium ion battery areas contain adequate stowage capacity and arrangement.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.3.3.3.1 Conduct Aviation Ops from Expeditionary Seabased Sites
4.2.1 Conduct Aviation Maintenance Operations
4.2.2 Conduct Ground Equipment Maintenance

UNIVERSAL NAVAL TASK LIST (UNTL)
1.1.2.3.3 Conduct Flight Ops

WARFIGHTING FUNCTIONS
Logistics

SEABASING LINES OF OPERATION
Employ
Sustain

JOINT CAPABILITY AREA (JCA)
4.3 Maintain Equipment

Armory/Weapon Storage: Amphibious Ships

BACKGROUND
After action reports from recent deployments and exercises have highlighted the challenges associated with weapons stowage and maintenance aboard amphibious shipping. Shipboard armory spaces and their associated weapon racks have not kept pace with Marine Corps weapon systems development and fielding, thus impacting the readiness of embarked forces. This problem exists in all L-Class ship weapons stowage areas. Currently a commercial off the shelf solution (COTS) is being tested aboard LHD 2.

CAPABILITY OBJECTIVES
Marine Forces embark, deploy and are employed with several types of individual and crew served weapons and their associated components and maintenance kits. The Marine Corps requires armory/weapon storage facilities aboard amphibious ships that will provide a flexible stowage alternative accommodating the range and density of individual and crew-served weapons maintained within the MAGTF.

IMPACT
Current armory configurations require disassembly of individual weapons systems for storage, which significantly affects the ability to maintain Battle Sight Zero (BZO). BZO is the proper calibration of the weapon system to the individual Marine and is required to ensure weapon accuracy. Mission success is predicated on proper stowage and maintaining configuration integrity of these critical weapons systems. The capability to store, maintain and calibrate weapons and ancillary components.

CURRENT STATUS
HQMC CD&I has submitted a requirements letter to OPNAV N9 seeking a material solution for amphibious warships. The requirements letter is an all-inclusive listing of weapons types/model/series and includes quantities, specification and dimensions. The document also provides the baseline weapon density and stowage requirements by compartment for LHD, LHA 6, LPD 17, and LSD 41/49 class ships. Stowage solutions shall optimize compartment stowage capacity, provide a great degree of stowage flexibility, and modularity, provide a secure stowage solution that considers the range of weapon heights, widths and allows for stowage and operations configuration without risk of damage when subjected to a dynamic (shock and vibration) maritime environment. Required funding for ship alternation has not yet been identified.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.12.5 Conduct Seabasing Ops
4.1.2.3.1 Provide Munitions Supply and Storage

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2 Conduct Amphibious Ops
4.3 Repair and Maintain Equipment

WARFIGHTING FUNCTIONS
Fires
Logistics

SEABASING LINES OF OPERATION
Close
Assemble
Reconstitute

JOINT CAPABILITY AREA (JCA)
4.2.3 Store Equipment and Supplies

Joint Forces Maritime Modular Systems

BACKGROUND
The Joint Force, specifically, USMC and Special Operating Forces (SOF), must use the sea as maneuver space to leverage its inherent force protection aspects due to potential access issues and/or required urban littoral work with partner nation GPF and SOF elements. These forces currently lack the ability to rapidly employ aboard any available Navy vessel for use as an AFSB with capabilities that meet their operational needs.

CAPABILITY OBJECTIVES
Joint development of embark-able, SOF modules (C2, planning, SCIF, berthing, maintenance, armory, medical spaces, etc.) outfitted in standard commercial containers (TEU) and are platform agnostic. These modules shall enable the rapid employment of USMC and SOF aboard most any platform as an AFSB allowing the Joint Force to effectively use the maritime maneuver space to accomplish their mission. Capabilities must include execution of command and control from the afloat platforms.

IMPACT
The USSOCCOM Integrated Priority List (IPL) has included this capability in the larger 'Seabased Support to SOF' category, which lists this requirement as having "significant" operational risk to related missions if this requirement is not met. This capability will significantly enhance the greater Joint Force mobility, loiter, mission space, responsiveness, force protection and strike actions in maritime/littoral domains. This ability will be especially important for crisis response capability, especially in the context of the 'Pivot to the Pacific' strategy; large maritime environment, strong partner nation capabilities in maritime/littoral domain.

CURRENT STATUS
USSOCCOM has submitted this requirement as FY17-21 IPL item under the title Seabased Support to SOF with J-8 joint staff directorate and Force Application Functional Capability Board (FCB) as the most appropriate to address the issue.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2 Conduct Amphibious Ops

WARFIGHTING FUNCTIONS
Command and Control
Maneuver
Logistics
Fires
Intelligence
Protection
Cyber

SEABASING LINES OF OPERATION
Close
Assemble
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
2.2.2 Battle Space Awareness & Collection
3.1 Force Application, Maneuver to Insert, Influence, (Maritime)
4.1 Logistics, Deployment & Distribution, Move the Force, Sustain the Force
5.5.2.2 Command & Control

Afloat MAGTF C4 Capabilities

BACKGROUND
The required afloat Command, Control, Communications, and Computers (C4) capabilities to support maritime and amphibious operations across the Range of Military Operations (ROMO) are critical. The increased reliance on information superiority, extended battle space and increased cyber threats demand a flexible, robust and protected domain capable of enabling all warfighting functions. The brisk evolution of technology dictates that the enterprise rapidly inserts next generation solutions to support the warfighter. The chasm between afloat and ashore capabilities continues to exist and in some cases is expanding.

Since 1992, the Marine Corps has published these requirements in various formats. The 2014 Afloat MAGTF C4 Required Capabilities letter maps gaps and capabilities to the required solutions and/or services. Produced annually, this letter articulates priorities to inform Navy and Marine Corps POM funding cycles.

REQUIRED CAPABILITY
The capabilities and services as put forth in the 2014 AMC4RC.

IMPACT
Afloat networks continue to degrade and become obsolete faster than they can be upgraded or refreshed. This impacts all facets of Command and Control (C2) (e.g. Common Operational Picture/Common Tactical Picture situational awareness; Intelligence, Surveillance and Reconnaissance (ISR) receipt and dissemination; etc.) for embarked USN & USMC elements. Degraded shipboard networks are impacting operations as reported by the deploying ARG/MEUs. Consolidated Afloat Networks and Enterprise Services (CANES) will provide network upgrades, enterprise services (chat, eMail, internet, and video) increased network security, and virtualization in a capable afloat network environment.

CURRENT STATUS
2014 AMC4RC was signed by DC, CD&I and submitted to OPNAV N2/6 and N95.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
Refer to the 2014 AMC4RC letter

UNIVERSAL NAVAL TASK LIST (UNTL)
Refer to the 2014 AMC4RC letter

WARFIGHTING FUNCTIONS
Command & Control
Fires
Maneuver
Logistics
Intelligence
Force Protection
Cyber

SEABASING LINES OF OPERATION
Close
Assemble
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
Refer to the 2014 AMC4RC letter

Advanced Mooring System (AMS)

BACKGROUND
One of the most difficult challenges facing forces conducting seabased operations is the need to bring ships, vessels, craft, and lighterage together in order to transfer personnel, equipment, and cargo from one platform to another in less than ideal weather conditions. The AMS under development by the Office of Naval Research (ONR) in partnership with Program Executive Office (PEO) Ships and Navy Facilities Engineering Command Sealift Support Program Office (NAVFAC SSPO) enables frequent, safe, and fast mooring at sea with minimal manpower (no line handling). When installed on the Mobile Landing Platform (MLP) or other ships it facilitates their use as a hub for transfer of materials, equipment, payloads, mission packages, and personnel.

CAPABILITY OBJECTIVES
An easily transportable system for at-sea mooring.

IMPACT
AMS will help seabased forces quickly & safely moor connectors and high flare container ships to the MLP in high sea states. In addition to enhancing deck crew safety, AMS significantly widens the operating envelop for force closure, arrival and assembly, employment, sustainment, and reconstitution.

CURRENT STATUS
AMS is over halfway through its five year development program by ONR. It completes its S&T phase in FY15 after which it starts its R&D phase under the Strategic Sealift R&D program.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

S&T GAP
FY11 #33: At-Sea Assembly, Adaptive Force Packaging, Continuous Movement and Sustainment of Combat Power Ashore

MARINE CORPS TASK LIST (MCTL)
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2.2.3 Buildup the Force

WARFIGHTING FUNCTIONS
Maneuver
Logistics

SEABASING LINES OF OPERATION
Close
Assemble
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
4.1.3 Deploy the Force

Interface Ramp Technology (IRT)

BACKGROUND
The JHSV is a critical surface connector, linking intermediate staging bases, ships of the seabase, and forces operating ashore. The JHSV—as currently delivered—is limited in its ability to affect those connections in all but the lowest sea states. In order to enhance its ability to transfer personnel, equipment, and cargo within the seabase in more adverse environmental conditions the JHSV needs a more capable ramp.

CAPABILITY OBJECTIVES
An advanced, lightweight, cost-effective ramp system for the JHSV capable of sea state 3 (threshold) and sea state 4 (objective) operations. The current JHSV ramp is limited to sea state 1 operations.

IMPACT
The IRT project developed technologies for future JHSV ramps. JHSV's incorporating these technologies will offload quickly and efficiently across a wider range of operating conditions than is possible with the current JHSV ramp. IRT technologies will lead to an advanced, lightweight, cost-effective ramp system for the JHSV capable of sea state 3 (threshold) and sea state 4 (objective) transfer operations.

CURRENT STATUS
ONR's IRT effort will complete its S&T phase in late 2014 after which it delivers those technologies to PEO Ships for further R&D development and ramp design. Incorporation of IRT ramp technologies on JHSVs is an ongoing discussion within the Navy.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

S&T GAP
FY06 #24: Connectors and interfaces to support the transport of personnel, equipment and logistics to/from the seabase

MARINE CORPS TASK LIST (MCTL)
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2.2.3 Buildup the Force

WARFIGHTING FUNCTIONS
Maneuver
Logistics

SEABASING LINES OF OPERATION
Close
Assemble
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
4.1.3 Deploy the Force

Environmental Ship Motion Forecasting (ESMF)

BACKGROUND
ESMF significantly increases the safety of inter- and intra-ship operations while also extending the operating environment for various missions. ESMF's ability to predict ship motions will significantly increase the safety of operations between two vessels conducting cargo transfer at sea (LMSR/MLP, MLP/LCAC, etc.). It extends the operational environment for various missions by predicting time periods or ship headings where cargo movement may be conducted despite sea states normally considered beyond safe operating limits.

CAPABILITY OBJECTIVES
A decision support tool forecasting wave motion and ship motion in response to wave motion. The tool will help ship captains, masters, and their deck crews determine whether it is prudent and safe to conduct ship-ship transfer of people, equipment, and cargo. ESMF's components include a wave radar and a computer distributing environmental and ship motion information to operators throughout the ship.

IMPACT
ESMF helps ship captains, masters, and their deck crews determine whether it is prudent and safe to conduct ship-ship transfer of people, equipment, and cargo. It extends the operational environment for various missions by predicting time periods or ship headings where cargo movement may be conducted despite sea states normally considered beyond safe operating limits.

CURRENT STATUS
ONR completes its ESMF S&T phase in 2015, after which PEO Ships continues development and testing. Decisions on which ships will benefit from ESMF have been deferred until the technology is tested and validated.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

S&T GAP
FY11 #33: At-Sea Assembly, Adaptive Force Packaging, Continuous Movement and Sustainment of Combat Power Ashore

MARINE CORPS TASK LIST (MCTL)
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2.2.3 Buildup the Force

WARFIGHTING FUNCTIONS
Maneuver
Logistics

SEABASING LINES OF OPERATION
Close
Assemble
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
4.1.3 Deploy the Force

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Flexible Seabased Force Projection (FSFP)

Background
FSFP is unique approach for reducing local sea states (vice engineering ever stronger interfaces). Inflatable, fillable rigid structures deploy as wave barriers that reduce sea states in and around ships, vessels, craft, and platforms from SS-4 to SS-3 or from SS-3 to SS-1. An added benefit of the FSFP is its use of the same inflatable structure technologies to enable launch and recovery of amphibious vehicles from other than amphibious ships.

Required Capability
Inflatable structure technologies to facilitate cargo transfer operations, surface connector interfaces, and amphibious vehicle launch and recovery in the seabase by mitigating local sea states and increasing the functionality of existing platforms.

Impact
FSFP's payoff is increased access to ships and their equipment across the seabase, better at-sea transfer operations in higher sea states, and potential launch & recovery interfaces for amphibious vehicles.

Current Status
ONR begins its multi-year FSFP development effort in FY-17.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

S&T GAP
POM 16 #25 Preparing the Force for Ops
POM 16 #26 Improving Seabased Transfer Ops
POM 16 #27 Sustaining the Force from the Seabase

MARINE CORPS TASK LIST (MCTL)
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2.2.3 Buildup the Force

WARFIGHTING FUNCTIONS
Maneuver
Logistics

SEABASING LINES OF OPERATION
Close
Assemble
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
4.1.3 Deploy the Force

Ultra Heavy-Lift Amphibious Connector (UHAC)

BACKGROUND
UHAC is an ONR initiative to mature and refine technologies for use in future watercraft development programs. A displacement craft with buoyancy and propulsion provided by an innovative captive air-cell technology, a future full scale UHAC would have up to three times the payload of the Ship-to-Shore Connector (SSC) and approximately the payload of a 1600-series Landing Craft Utility (LCU). It would have the same well deck footprint as an SSC with speeds twice that of an LCU. The captive air cell technology also yields a low ground pressure footprint (less than 2 psi) giving it the ability to traverse mud flats or climb over obstacles in excess of 10 feet. With a projected range of over 200 miles, UHAC could deliver forces and sustainment from well over-the-horizon.

CAPABILITY OBJECTIVES
Development of amphibious craft technologies yielding three times the lift capacity of the Ship to Shore Connector (SSC; LCAC replacement) at twice the speed of the Landing Craft Utility (LCU) with much greater coastal access than either the SSC or the LCU. Technologies developed under the UHAC program will be used in the design of future ship-to-shore connectors.

IMPACT
Future surface connectors with UHAC's speed, payload, range, and ability to operate to and through a beach gives MAGTF commanders a significant advantage in projecting force ashore.

CURRENT STATUS
ONR successfully demonstrated UHAC's potential with fifth- and half-scale demonstrators. Testing and technology development continue through a variety of funding sources. The Marine Corps Warfighting Lab is sponsoring a half-scale UHAC demonstration during their 2014 Advanced Warfighting Experiment (in conjunction with RIMPAC 2014). ONR product managers are currently working with a number of DOD agencies to secure funding for future product development. Development of a full-scale technology demonstrator is a possibility.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.12.1 Conduct Amphibious Ops
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2 Conduct Amphibious Ops
1.5.2.1 Conduct Ship-to-Shore or Ship-to Objective Maneuver

WARFIGHTING FUNCTIONS
Logistics

SEABASING LINES OF OPERATION
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
3.1 Force Application, Maneuver to Engage, Insert, Influence, (Maritime)
4.1 Logistics, Deployment & Distribution, Move the Force; Sustain the Force

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Large Vessel Interface (LVI) LO/LO

BACKGROUND
LVI LO/LO is an advanced, motion-compensated, at-sea cargo transfer system enabling transfer of fully-loaded cargo containers between ships and vessels in up to sea state 4. Once the technology is fully developed, it will give the warfighter the ability to move containerized logistics through the seabase without having to secure a deep water port for container ship off-loading. This capability greatly increases potential throughput of the seabase and provides a key logistical enabler for support of joint forces operating ashore.

CAPABILITY OBJECTIVES
An advanced, motion-compensated, at-sea cargo transfer system that enables transfer of fully-loaded cargo containers between ships and vessels in sea state 4 and below.

IMPACT
The fully developed technology gives the warfighter the ability to move containerized logistics through the seabase without having to secure a deep water port for container ship off-loading. This capability greatly increases the potential throughput of the seabase and provides a key logistical enabler for support of a joint task force operating ashore.

CURRENT STATUS
LVI LO/LO completed its S&T phase in 2011. The technology continues to be refined and tested by PEO Ships.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

S&T GAP
BAS-FY04-0 Seabase Integrated Operations

MARINE CORPS TASK LIST (MCTL)
1.12.1 Conduct Amphibious Ops
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2.2.3 Buildup the Force

WARFIGHTING FUNCTIONS
Maneuver
Logistics

SEABASING LINES OF OPERATION
Close
Assemble
Employ
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
4.1.3 Deploy the Force

Dense Pack Access Retrieval and Transit (DPART)

BACKGROUND
The Dense Pack Access Retrieval and Transit (DPART) is a 30 month, FY13 Joint Capability Technology Demonstration (JCTD) co-sponsored by USPACOM and USTRANSCOM with the Marine Corps as the lead service. The DPART JCTD key deliverables consists of: one hybrid/electric powered Container-Lift and Maneuver System (C-LMS), one electric powered Autonomous Naval Transport-Large Wheeled Vehicle (ANT-LWV), and one Universal Remote Control (URC).

CAPABILITY OBJECTIVES
Technologies to enhance the ability to dense pack, selectively access, and retrieve 20-foot ISO Containers and three axle vehicles within the MTVR family of vehicles.

IMPACT
DPART provides geographic combatant commanders the flexibility to: rapidly and selectively access, project, reconstitute and redeploy flexible, scalable and tailorable joint forces and logistical support across the range of military operations, selectively access and move cargo while enroute and to an exit point where cargo can be readily moved ashore by other means at the objective, transit containers up or down vessel or other ramps and onto/off of lighters/connectors, and reconfigure loads while enroute to meet changing mission requirements (e.g., access and pre-stage for rapid offload). Additionally, these capabilities will have a wide array of applications at bases, stations, and depots alike, particularly when moving deadlined or non-operational vehicles.

CURRENT STATUS
The JCTD was approved by Congress and commenced in Aug 2013. It is scheduled to transition to the General Services Administration (GSA) in FY16.

FIVE SEABASING CAPABILITY DEVELOPMENT FACTORS

MARINE CORPS TASK LIST (MCTL)
1.12.1 Conduct Amphibious Ops
1.12.5 Conduct Seabasing Ops

UNIVERSAL NAVAL TASK LIST (UNTL)
1.5.2 Conduct Amphibious Ops

WARFIGHTING FUNCTIONS
Logistics

SEABASING LINES OF OPERATION
Assemble
Sustain
Reconstitute

JOINT CAPABILITY AREA (JCA)
4.1 Logistics, Deployment & Distribution, Move the Force; Sustain the Force

SEABASING OVERVIEW

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UNITED STATES MARINE CORPS

Combat Development & Integration, Seabasing Integration Division

QUANTICO, VIRGINIA

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